

UNIVERSITY OF CALIFORNIA
MUSEUM OF VERTEBRATE ZOOLOGY

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Marshall, J. T.

El Salvador, C. A.

Nov. 1941 - May 1942



Joe T. Marshall, Jr.
Museum of Vertebrate Zoology
University of California
Berkeley, California
U. S. A.

University of California El
Salvador Expedition
care of G. A. Swannquist
San Miguel, El Salvador, C.A.

Bird skeletons:

complete: 311 JTM

39 JD

7 MH

4 RAS

Total 361

Body skeletons 13 JTM

1 JD

Hummer 2 JTM

Total skeletal material 377

Catalog of Specimens

Marshall, 1941

1.

Catalog

Zacapa, Guatemala, C.A.

December 21

v 1587 ♀ ad ^{skull complete} Mimus gilvus cactus hedge in town
taken with slingshot. iris straw
ovary 9mm. but ova minute

Marshall, 1941

2.

Catalog

(San Francisco)

Gotera, 700 ft., Dept. Morazan, El Salvador

Dec. 24, 1941

✓1588 ♀ ^{skull complete} ad ♀ *Myiochanes cinereus* ovary 5 mm.

Tachycineta

Mt. Caraguatique, Dept. Morazan, El Salvador

✓1589 *Tachycineta* (pickups) E slope 4000 ft

Dec 25

✓1590 ♂ *Hylocharis leucotis pygmaea* N. slope 4600 ft testes 2.7 mm.

✓1591 ♂ ^{skull complete} ad *Troglodytes musculus wren* N. slope 4600 ft. testes 1.7 mm.

✓1592 ♂ skull complete *Vermivora peregrina* N. slope 4600 ft testes .6 mm.

✓1593 ♂ *Turdus grayi* coffee berries in stomach N. slope 4600 ft testes 2 mm.

✓1594 ♀ *Balanosphyra f. lineata* iris white ovary 8 mm N. slope 4600 ft.

✓1595 ♂ *Balanosphyra formicivora lineata* " " testes 3.5 mm.

✓1596 ♀ *Centurus aurifrons* ovary 10 mm.

✓1597 ♂ *Cissilopha* testes 2.5 mm.

December 26 all N. slope, 4600 ft.

✓1598 ♂ *Centurus aurifrons* iris red. testes 3.5 mm.

✓1599 ♂ *Picus* iris black testes 5 mm. l. 2.5 mm. rt.

✓1600 ♂ *Analcorynchus prasinus* berries in stomach iris purple " 4 mm.

✓1601 ♂ *Leptotila verreauxi* iris cream testes 15 mm.

✓1602 *Empidonax hammondi*

✓1603 ♀ *Zonotrichia capensis* ovary 3 mm.

✓1604 ♂ *Megarhynchus pitangus mexicanus* skeleton

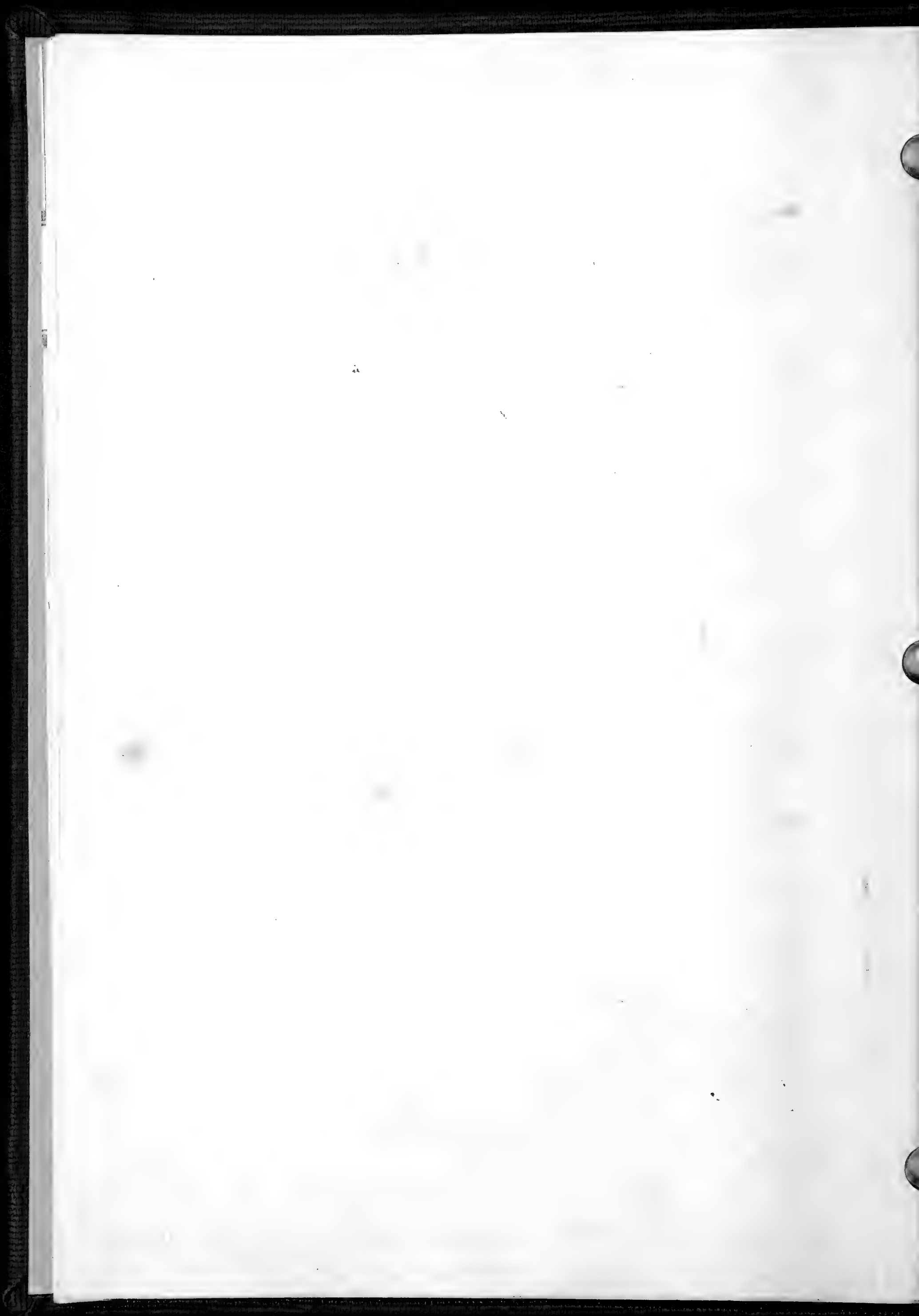
✓1605 ♂ *Glaucopteryx brasilianus* Stom: insect testes 3 mm. moulting

✓1606 ♀ ^{December 27} hummer white throat *Amazilia cyaneus* ovary active

✓1607 ♀ woodhewer *Dendrocolaptes certhia* ovary 6 mm

✓1608 ♀ *Myiarchus tuberculifer* s-e slope, 4800 ft ovary 5.5 mm

✓1609 ♂ oven-bird *Sitta carolinensis*



Marshall, 1941-1942

4.

Catalog
Mt. Cucagnatique, Dept. Morazan, El Salvador

December 30

- ✓1631 ♂ *Zonotrichia capensis* n. slope, 4600 ft. testes 1⁺ mm.
✓1632 ♂ *Spinus psaltria croceus* E. slope testes 1.3 mm.
✓1633 ♀ " " " " " " ovary 4 mm. ^{old brood patch}
✓1634 ♂ *Trogon elegans elegans* n. slope, 4600 ft. testes 2 mm.
skeleton
✓1635 ♀ *Praya cayana stirtoni* stomach filled with beetles? ovary 9 mm.

December 31

- ✓1636 ♂ *Sialia sialis* testes ^{inactive} small
✓1637 ♀ " " ovary inactive
✓1638 ♂ " " testes small
✓1639 ♂ *Balanosphyra formicivora lineata* testes inactive
✓1640 ♂ " " " "
1641
✓1642 ♂ " " " "
✓1642 ♂ *Trogon violaceus* " "
✓1643 ♂ *Tyrannus verticalis* " "
skeleton
✓1644 ♀ *Monoxetus lessoni lessoni* ovary inactive
skeleton
✓1645 ♀ " " " "
skeleton
✓1646 ♂ *Phloeocastres guatemalensis guatemalensis* large larva in stomach. testes: 13 mm.

Dec. 30

- ✓1647 ♂ *Dendroica occidentalis* prep. Elliott

January 1, 1942

- ✓1648 im *Passerina cyanea*
✓1649 ♀ *Piculus rubiginosus guatemalensis* ovary 8 mm.
✓1650 ♂ *Lepidocolaptes affinis affinis* testes 3 mm.
✓1651 ♂ *Xiphorhynchus(?) flavigaster* shot in kidney only one cm. testis found.
✓1652 *Myiochanes pertinax minor*
✓1653 ♂ *Lepidocolaptes affinis affinis* testes 2.5 mm.
skeleton
✓1654 ♀ " *affinis* or *souleyetii* ovary 7 mm.

Marshall, 1942

5

Catalog

mt. Cacaguatique, Dept. Morazan, El Salvador

January 1

- ✓1655 ♂ skeleton *Tanagra Piranga rubra* testes 1 mm.
✓1656 ♀ skeleton *Tityra semifasciata personata* ovary 10 mm.
✓1657 ♂ skeleton " " testes 4.5 mm.
✓1658 ♂ *Piculus rubiginosus* rt. testis 7 mm.

January 2

- ✓1659 ♂ skeleton *Trogon violaceus sallaei* same sp. as 1642 testes 2.5 mm.
✓1660 ♀ *Lepidocolaptes affinis affinis* ovary 6 mm.
✓1661 ♂ ad *Flycatcher* ~~*Empidonax*~~ *Elgenia obscura* testes 1.6 mm.
✓1662 ♂ *Columba fasciata* rt. testis 13 mm.
✓1663 ♂ *Thraupis abbas* testes 2 mm.
✓1664 ♂ *Glaucidium brasilianum* ^{stom: part of a *Vermivora* meal} ^{*perigrina*?, rest} testes 4 mm.
^{in claws.}

January 3

- ✓1665 ♀ *Mittalornis borealis* very fat ovary 4 mm.
✓1666 ♀ *Lepidocolaptes affinis* ovary 5 mm.
✓1667 ♂ skeleton *Xiphobrychus flavigaster* testes 2.5 mm.
✓1668 ♀ skeleton & skin *Xiphocolaptes promeropurpureus* ovary 11 mm.
✓1669 ♂ *Ceophloeus lineatus* testes 6 mm.
✓1670 ♀ " " ovary 10 mm.
✓1671 ♂ *Trogon violaceus* testes 1.5 mm.
✓1672 ♂ *Buteo jamaicensis* ^{stomach empty} testes 6.5 mm.
✓1673 ♂ *Falco albicollis* coll. N. Geer ^{stom. empty} molting testes 5.5 mm.

January 4

- ✓1674 ♂ *Tanager Piranga bidentata* testes 2 mm.

→ *Xiphocolaptes*: iris red

wing: 134 tail: 113 exposed culmen: 51

tarsus: 31.5 bill from nostril 40 depth at nostril: 9.5

middle toe + claw: 37

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6.

Catalog

Mt. Cacaguatigue, Dept. Morazan, El Salvador

January 4

- ✓ 1675 ♂ *Columba flavirostris* coll. N. Geer at. testes 16 mm.
✓ 1676 ♀ " *fasciata* largest ovum 2.5 mm.
✓ 1677 ♂ *Otus trichopsis* stomach: parts of 1 grasshopper. testes 8.5 mm.
✓ 1678 ♂ " " " about 6 sm. orthoptera " 5 mm.
✓ 1679 ♂ *Glauucidium brasilianum* stom. full insects testes 3.5 mm.
coloration same as 1664 but back a little darker brown and flank streaks ^{slightly} darker, more contrasted with white.

January 5

- ✓ 1680 ♂ *Scardafella inca* testes 6 mm.
✓ 1681 ♂ *Lepidocolaptes affinis* testes 1.5 mm.
✓ 1682 ♀ *Saltator atriceps* fruit & buds in stom ovary 8 mm.
✓ 1683 ♂ " " fruit & pits in stom testes 2 mm.
✓ 1684 ♂ " " testes 2.5 mm.
✓ 1685 ♂ " " testes 1.5 mm.
✓ 1686 ♀ *Buteo jamaicensis* coll. N. Geer fat, ovary small
✓ 1687 *Momotus lessonii* coll. N. Geer
✓ 1688 ♂ *Otus trichopsis* coll. M. Hildebrand Red Phase stom. empty testes 5 mm.

January 6

- ✓ 1689 ♀ *Pachyrhamphus major* ^{leaf-grasshoppers?} stomach insects ovary 5 mm.
✓ 1690 ♀ *Dactylopsitta thoracicus* ^{bird brought in by native}
✓ 1691 ♀ *Momotus lessonii* ovary 9 mm.
✓ 1692 ♀ *Cissilopha melanocyanica* adult plumage (dark) ovary 10 mm.
✓ 1693 ♂ " " yellow iris testes 3 mm.
✓ 1694 ♂ ad " " black bill iris greenish-yellow " 3.5 mm.
✓ 1695 ♂ skull complete " " dark iris, bill greenish grey at base " 3 mm.
✓ 1696 ♀ *Xiphorhynchus flavigaster* ovary 7 mm.

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Catalog
Mt. Cacaguatigue, Dept. Morazan, El Salvador

January 6

- ✓1697 ♀ *Empidonax hammondi*
✓1698 ♀ *Corvus corax* fruit & corn in stom. lgest ovum 2 mm.
✓1699 ♂ *Otus trichopsis* sm. grasshoppers in stom. fat 2 testis 8 mm
skeleton rt " 4 mm
✓1700 ♂ " " (g. Katydid, lg moth (1')), many sm. grasshoppers 1. testis 8 mm
" 6 mm

January 7

- ✓1701 ♂ *Dendroica graciae* singing testes .6 mm.
skeleton
✓1702 ♂ *Dactylortyx thoracicus* testis 10 mm
stomach full: lg. Katydid, Moths, grasshoppers
✓1703 ♂ *Caprimulgus vociferus* very fat testes 3 mm.
✓1704 ♀ *Ciccaba virgata* stom: 3 lg. Katydids lgest ovum 2.5 mm.

January 8

- ✓1705 ♀ *Aulacorhynchus prasinus* ovary 15 mm.
skeleton
✓1706 ♂ " " testes 5 mm.

- ✓1707 ♀ *Myiarchus tuberculifer* ovary 5 mm.

- ✓1708 ♀ " "

- ✓1709 ♂ *Myiochanes pertinax* testes 2 mm.

- ✓1710 ♂ *Thryothorus ~~maestus~~* " 1 mm.

- ✓1711 ♂ *Lepidocolaptes affinis*

- ✓1712 ♂ *Cissilopha melanocyanea* iris dark
bill yellowish at base

- ✓1713 ♂ *Dactylortyx thoracica*

- ✓1714 ♀ " "

January 9

- ✓1715 ♂ *Cyclarhis flaviventris* testes 2 mm.

- ✓1716 ♀ *Geococcyx velox* beetles in stom. ovary 12 mm.

- ✓1717 ♀ *Passerina cyanea*

- ✓1718 ♀ *Setophaga picta* ovary small

- ✓1719 ♂ *Megarhynchus pitangua* testes 2.5 mm.

- ✓1720 ♂ *Xiphocolaptes promeropurpureus* coll. Milton Hildebrand testes 3 mm.

January 10

- alcoholic
✓1721 *Xiphorhynchus flavigaster*

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8.

Catalog

Mt. Cacaguatigue, Dept. Morazan, El Salvador

January 10

- ✓1722 ♂ small hummer with forked tail
skeleton
✓1723 ♂ *Myiarchus tuberculifer* testes 1.5 mm.
✓1724 *Piranga leucoptera*
✓1725 ♂ " " coll. M. Hildebrand testes 1 mm.
✓1726 ♂ in *Seiurus auricapillus*
✓1727 ♀ *Piaya cayana*
✓1728 ♀ in *Eupidonax*
✓1729 ♂ *Atlapetes gutturalis*
✓1730 ♀ *Otus trichopsis* very fat ready to breed - oviduct large, largest ovum 4 mm. parts of 1 beetle? in stom.
✓1731 ♂ " " " " orthopteran cricket testes 10 mm.

January 11

- ✓1732 ♂ *Cyclarhis flaviventris* testes 2.5 mm.
✓1733 ♂ *Passerella lincolni* testes 1 mm.
✓1734 ♀ *Icterus wagleri* ovary 7 mm.
✓1735 ♂ *Myiarchus tuberculifer* testes 2 mm.
✓1736 ♀ *Sphyrapicus varius* ovary 6 mm.
✓1737 ♂ *Piranga rubra* same as 1751
Tanager sp? no bars nor streaks testes .7 mm.
✓1738 ♀ *Monotus lessonae* ovary 12 mm.

January 12

- alcoholic
✓1739 *Xiphocolaptes p. emigrans*
✓1740 ♀ " " " ovary 10 mm.
skeleton
✓1741 ♀ *Aulacorhynchus prasinus* ova about 1 mm.
ovary 13 mm.
✓1742 ♂ *Troglodytes musculus* testes 1.5 mm.
✓1743 ♂ *Vireo solitarius* testes 1 mm.
✓1744 ♀ Tanager *Piranga bidentata*
✓1745 ♂ *Centurus aurifrons* testes 5 mm.
✓1746 ♂ *Hylocichla ustulata* testes 2 mm.
✓1747 ♀? " "

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9.

El Salvador Catalog

mt. Cacagnatigue, Dept. Morazan, El Salvador

January 12

✓1748 ♀ *Ceophloeus lineatus* largest ovum 2 mm.

January 13

✓1749 ♀? Hummer

right damaged on l. side
no left testis ∴ female

✓1750 ♂ *Dendroica townsendi* testes 1 mm.

✓1751 ♀ *Piranga rubra* no bars
Tanager sp? pi-tich nor streaks ovary 7 mm

January 14

✓ skeleton
✓1752 ♂ *Turdus grayi* testes 3 mm.

✓ skeleton
✓1753 ♀ *Piranga bidentata* ovary 10 mm.

✓1754 ♀ *Flycatcher: Empidonax?* *Elaenia obscura*
same as 1661 ovary 5 mm.

✓1755 ♀ *Archilochus colubris* ovary 1.7 mm.

✓1756 ♀ *Hylocharis leucotis* ovary 1.5 mm.

✓1757 ♂ *Otus trichopsis* testes 10 mm.

January 15

✓1758 ♀ in *Buarremon brunneinuchus* ovary 2.5 mm.

✓1759 ♂ *Aimophila ruficauda* testes 2 mm.

✓1760 ♂ *Hylocharis leucotis* Testes 2 mm.

✓1761 ♀ *Geococcyx velox* grasshoppers in stom. largest ovum 4 mm.

✓1762 ♂ *Wilsonia pileolata*

January 16

✓ skeleton
✓1763 ♂ *Xiphorhynchus flavigaster* testes 2 mm.

✓ skeleton
✓1764 ♂ *Campylopterus curvipennis* testes 3.3 mm.

January 17

✓ skeleton
✓1765 ♂ *Cyclarhis flaviventris* testes 1 mm.

✓ skeleton
✓1766 ♂ *Icterus chrysater* testes 3 mm.

✓ skeleton
✓1767 ♂ *Elaenia obscura*
Empidonax? same sp. as 1661 & 1754 testes 2 mm.

Marshall, 1942

10.

Catalog

Lake Olomega^{200 ft}, Dept. San Miguel, El Salvador

January 23 22

- ✓ 1768 ♀ *Rhynopteryx clamator* iris dusky yellow rodent in stom. ovary 10 mm.
skeleton
✓ 1769 ♀ *Buteo magnirostris* crabs & locust in stom.
skeleton
✓ 1770 ♂ *Polyborus cheriway* fish in stom. testes 5 mm.
skeleton
✓ 1771 ♂ *Nyctidromus albicollis* testes 5.5 mm.
skeleton
✓ 1772 ♀ " " largest ovum 1.5 mm.
✓ 1773 ♂ " " testes 10 mm.
✓ 1774 ♀ " " largest ovum 1.7 mm.
✓ 1775 ♀ " " " " 1 "
✓ 1776 ♂ *Caprimulgus vociferus* testes 3 mm.
✓ 1777 ♀ *Chordeiles acutipennis* ovary 6 mm.

January 23

- ✓ 1778 ♂ *Dendrocygna autumnalis* testes 10 mm.
skeleton
~~1779 ♂ " " " 9 mm.~~

January 24

- ✓ 1780 ♂ *Eumomota superciliosa* testes 2.5 mm.
✓ 1781 ♂ *Thamnophilus doliatus* testes 2 mm.
✓ 1782 ♀ *Dendroica magnolia* ovary 3 mm.

~~1783 ♀ *Dendrocygna autumnalis*~~

skeleton

✓ 1784 ♀

skeleton

✓ 1785

skeleton

✓ 1786 ♀

✓ 1787 ♂

✓ 1788 ♀

✓ 1789 ♂

✓ 1790 ♂

✓ 1791 ♂

Cairina moschata

not sexed by Stirton

Geranoospiza nigra

Paraguate in stom

Buteo gallus anthracinus

lizard in stom

testes 10 mm

"

fish & lizard

iris brown

scales in stom.

ova small

Glancidium brasiliense

insects in stom.

testes 4 mm.

Pulsatrix perspicillata

locust in stom.

iris yellow testes 9 mm

Caprimulgus vociferus

testes 3 mm.

Marshall 1942

11.

Catalog

L. Olomega, 200 ft., Dept. San Miguel, El Salvador


January 26

- ✓ 1792 ♀ *Todirostrum cinereum*
✓ skeleton
✓ 1793 ♂ *Amazona auropalliata*
✓ 1794 ♀ *Caprimulgus vociferus* ovary 5 mm.
✓ skin & partial skeleton
✓ 1795 ♂ *Rhinopteryx clamator* 1 grasshopper in stom. testes 7 mm.
✓ 1796 ♂ *Buteo magnirostris* grasshoppers in stom. testes 7 mm.
✓ skin & partial skeleton
✓ 1797 ♂ *Buscarellus nigricollis* fish in gullet testes 8 mm.
hawk (rufous, white head)

January 27

- ✓ 1798 ♀ *Heleodytes rufinucha* ovary 6 mm.
✓ 1799 ♂ *Herpetotheres cachinnans* testes 7 mm.
✓ 1800 ♀ *Basileuterus delatitri* ovary small
✓ 1801 ♂ " " testes "
✓ 1802 ♀ *Ardea herodias* ova small
✓ 1803 ♀ " *schleri* ovary 8 mm.

January 28

- ✓ 1804 ♂ *Buteo plagiatus* testes 10 mm.
✓ skeleton
wing 248 tail 154 tarsus 63 culmen 31
iris dark brown, bill blueish-grey at base, toes black, cere & legs
pale yellow, tail:  grey above, grey barred
with white below, head

uniform & lighter grey

- ✓ 1805 ♂ *Agelaius phoeniceus* testes 1.5 mm.
✓ 1806 ♀ *Pitangus sulphuratus* ovary 8 mm.
✓ 1807 ♂ *Tyrannus melancholicus* testes 2 mm.
✓ 1808 ♂ *Polioptila bilineata* testes .8 mm.
✓ 1809 ♂ *Volatinia jacarina* " 1.5 "
✓ 1810 ♂ *Sporophila minuta* " 1 "
✓ 1811 ♂ *Glauclidium gnoma* insects in stom. " 7 mm.
✓ skeleton
✓ 1812 ♀ *Pulsatrix perspicillata* grasshoppers in stom. largest oviduct conspic. ovum 3.5 mm.
✓ skeleton
✓ 1813 ♂ *Buteo magnirostris* insects in stom. testes 10 mm.

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12.

Catalog

L. Omega, 200 ft., Dept. San Miguel, El Salvador

January 29

✓1814 ♂? *Sporophila moreletii*

✓1815 ♀ *Myiarchus crinitus* #

ovary small

✓1816 ♂ *Polioptila bilineata*

testes small

✓1817 ♂ in *Thryothorus modestus*

" "

✓1818 ♂ *Aimophila ruficauda*

testes 2.5 mm.

✓1819 ♂ " "

" " "

✓1820 ♀ *Scardafella inca*

+ humeri

✓1821 ♀ *Ciccaba nigrolineata*

grasshoppers in stom.

laying

iris brown, bill & toes waxy yellow also cere, claws yellowing darker horn color at tip.

January 30

✓1822 ♀ *Todirostrum cinereum*

ovary 4 mm.

✓1823 ♀ *Sporophila minuta*

" small

✓1824 ♂ *Chiroxiphia linearis*

testes small

✓1825 ♀ *Myiozetetes similis*

ova .8 mm.

✓1826 ♀ *Pintangus sulphuratus*

ovary small

✓1827 ♂ *Cyclarhis flaviventris*

testes "

✓1828 ♀ *Aratinga canicularis*

beginning to lay

✓1829 ♀ *Crotophaga sulcirostris*

ova 1 mm.

✓1830 ♀ *Polyborus cheriway*

ovary apparently recently past laying

✓1831 ♀ *Buteo jamaicensis*

throat: bird & sciurus

stom: grasshoppers ovary very small

✓1832 ♂ *Ciccaba nigrolineata*

grasshopper remains

& 2 bats in stom. testes 8 mm.

skulls saved by Milton Hildebrand

#1074 & #1075

January 31

✓1833 ♀ *Onychorhynchus coronatus*

ovary small

✓1834 ♂ *Colinus leucopogon*

testes 5 mm.

✓1835 ♂ *Myiarchus crinitus*

skeleton

~~✓1836 ♂ *Aratinga holochlora*~~

~~testes small~~

✓1837 ♀ *Buteo plagiatus*

grasshoppers in stom. largest ovum 6 mm.

✓1838 ♀ *Hypomorphus urubitinga* " & rodent? " " 2 mm

" & mammal " "

Marshall, 1942

13.

Catalog

L. Olomega, 200 ft., Dept. San Miguel, El Salvador

January 31

- skeleton & skin
✓ 1839 ♀ *Spizaetus ornatus* ova small; rt. ovary present.
~~1840~~ iris bright orange, cere pale yellow, feet pale yellow, claws & bill slate, lower mandible light grey at base, skin around eye dull yellow-green, lores more dusky.

Total length 679, spread 1320, wing 388, tail 294, tarsus 97, middle toe + claw 81, claw of middle toe 28, middle toe without claw 60, exposed culmen 42, bill from ^{ant} edge cere 32, depth ^{gt} ant. edge cere 23. Stomach empty

- skin & body skeleton
✓ 1840 ♀ *Spizaetus ornatus* ova small, rt. ovary present
Color same as above but iris yellower. Stom. empty.

February 1

- skin + body skel.
✓ 1841 ♂ *Spizaetus ornatus* stom. empty. l. testis 23 mm. rt " 18

February 2

- ✓ 1842 juv. *Aimophila ruficauda*

- ✓ 1843 ♀ ad. " "

- skeleton
✓ 1844 ♂ ad. " "

ova sm.
molting - some very worn feathers
testes 3 mm.

- skeleton
✓ 1845 ♀ ad. " "

ovary small.

- ✓ 1846 ♀ *Aratinga canicularis*

largest ovum 1 mm.

- ✓ 1847 ♀ *Crypturellus cinnamomeus* date & seeds in stom.

ova 2.5 mm.

- + body skeleton
✓ 1848 ♀ *Micrastur semitorquatus* large *Basiliscus* in stom. & crop. rt ovary present.

ova 4 mm.

large naked crop like Caracara

February 3

- ✓ 1849 ♂ *Pulsatrix perspicillata* ^{Orizomys - Pygmy Rice Rat} mouse & grasshoppers in stomach. iris yellow. testes 4 mm.

- ✓ 1850 ♀ *Saltator grandis* ova 1 mm.

- ✓ 1851 ♂ *Chiroxipha linearis* testes small

- skeleton
✓ 1852 ♂ *Crypturellus cinnamomeus* testes 9 mm narrow

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14.

Catalog

Lake Olomega, 200 ft., Dept. San Miguel, El Salvador

February 3, 1942

- ✓ skeleton
✓ 1853 ♂ *Piaya cayana* testes 5 mm.
+ humerus
✓ 1854 ♂ *Parabuteo unicinctus* grasshoppers in stomach. Testes small

February 4

- ✓ 1855 ♂ *Myiarchus cinerascens* Testes 2.5
✓ skeleton
✓ 1856 ♂ *Trogon elegans*
✓ skeleton
✓ 1857 ♂ *Euromota superciliosa* testes small
✓ skeleton
✓ 1858 ♀ *Crotophaga sulcirostris* ova small
✓ 1859 ♂ *Amazilia rutila* testes small
✓ 1860 ♂ *Saucerottia devillei* " "
✓ 1861 ♀ *Buteo ~~platyrhynchos~~ ^{plagiatus} (im)* grasshoppers in stom. ova small
✓ skeleton
✓ 1862 ♂ *Cochlearius cochlearius*

February 5

- alcoholic
✓ 1863 *Sarcorampus papa* stom & crop full
skin + body skeleton " " l. testis 15", rt. 10.
✓ 1864 ♂ " "

February 6

- ✓ skeleton
✓ 1865 ♀ ad. *Aimophila ruficauda* ovary small
✓ skull 1-layer " "
✓ 1866 ♀ im " "
✓ 1867 ♀ *Morococcyx erythropygus* ova .8 mm.
✓ 1868 ♂ *Euromota superciliosa* testes 3.5 mm.

February 5

- ✓ 1869 ♂ *Ciccaba virgata* grasshoppers in stomach. testes 9 mm

February 6

- ✓ skeleton
✓ 1870 ♂ *Antrogallus anthracinus* grasshoppers in stom. testes 10 mm
✓ skeleton
✓ 1871 ♀ " " " " ovum 2 mm.
imperfect
✓ 1872 ♂ *Rhinoptyx lamator* ^{Lyons} ^{Lyons} grasshoppers in stom. testes enlarged

February 7

- ✓ skeleton
✓ 1873 ♀ *Aratinga holochlora* ovum 2 mm.

Catalog

Lake Olomega, 200 ft., Dept. San Miguel, El Salvador

February 7, 1942

✓ 1874	skeleton	♂	<i>Aratinga holochlora</i>	testes 7 mm.
✓ 1875	skeleton	♂	<i>Todyrostrum cinereum</i>	testes small
✓ 1876	skeleton	♂	" "	" "
✓ 1877	skeleton	♂	<i>Thryothorus modestus</i>	" "
→ 1878	skel. imperfect	♂	<i>Thamnophilus doliatus</i>	" "
✓ 1879	skel.	♀	" "	ova "
✓ 1880	skel.	♀	<i>Mipozetes similis</i>	" "
✓ 1881	skel.	♂	<i>Tyrannus melancholicus</i>	testes "
✓ 1882	skel.	♀	<i>Icterus gularis</i>	ovary small
✓ 1883	skel.	♀	<i>Piranga</i> sm 2 white wing bars	" "
✓ 1884	skel.	♂ im	<i>Quisaca caerulea</i>	testes "
✓ 1885	skel.	♂	<i>Thamnophilus doliatus</i>	" "
✓ 1886	skel.	♂	<i>Geothlypis trichas</i>	" "
✓ 1887	skel. imperfect	♀	<i>Icterus virens</i>	ovary "
✓ 1888	skel.	♀	<i>Pteroglossus torquatus</i>	ova "
✓ 1889	skel.	♀	<i>Trogon elegans</i>	ovum 1.8 mm.

February 8

✓ 1890	skel.	♂	<i>Pulsatrix perspicillata</i>	rodent in stom. testes 11 mm.
✓ 1891	skel.	♂	<i>Megascops torquatus</i>	" 10 mm
✓ 1892	skel.	♀	<i>Cochlearius cochlearius</i>	ova small.
→ 1893	skel. imperfect	♀	<i>Nyctibius crissus</i>	" 5 mm testes 2.5
✓ 1894	skel.	♂	<i>Myiarchus tyrannulus</i>	same as J. Davis # 1189.
✓ 1895	skel.	♀	<i>Elaenia flavogaster</i>	ovary 8
✓ 1896	skel.	♂	" "	testes 2 mm.
✓ 1897	skel.	♂	<i>Synallaxis erythrothorax</i>	testes medium
✓ 1898	skel.	♀	<i>Colinus leucopogon</i>	ova 1 mm.
✓ 1899	skel.	♀	<i>Volatinia jacarina</i>	ovary small



16.

Catalog
Lake Olomega, 200 ft., Dept. San Miguel, El Salvador

skel. ✓ 1900 ♂ *Morococcyx erythropygus* testes 3mm.
 skel. ✓ 1901 ♂ *Callocitta formosa* " 15mm.
 alcoholic

~~Ischotic~~
✓1902 ♀
alcoholic
✓1903

February 10
Synallaxis erythrothorax
" " " "

skull 1-layer posteriorly
2 ova .7 mm.
alcoholic

1904 ♀ " " skull 1-layer posteriorly
ova small

v1906 ♀ " " every "

✓ 1908 ♂ *Polioptila bilineata* testes small

✓1910 ♂ *Elania flavogaster* fat.

1911 ♂ *Myiarchus tyrann^{ulus}~~oides~~*
1912 ♂ " *c. cinerascens* testes small

v 1913 singing *Chamaethlypis poliocephala*
 v 1914 ♀ *Lepidoclaptes souleyetii* very small

-1915 ♀ *Butorides virescens*

19/6 ♂ *Crypturellus cinnamomeus* spiny - palm seeds & other seeds, insects, fruit. ^{Tucker # 958} testes 10 mm.

skel.
✓ 1917 ♀ *Phocoetes guatemalensis* ova & oviduct large

Skel.					
✓ 1918	♀	Cyanerpes	canary cyanus	brighter	feet red.
✓ 1919	♀	"	"	color than 1918	ovary small
				feet dull reddish	99%

✓ 1919 ♀
skel
✓ 1920 ♂ Attila spadiceus
skel

✓1921 ♂ *Synallaxis erythrothorax*
 ✓1922 ♀ *Pteroglossus torquatus* ova small

✓ 1923 *Dendroica aestiva*
✓ 1924 ♀ *Thamnophilus loliatus* very small

Catalog

Lake Omega, 200ft., Dept. San Miguel, El Salvador

February 11✓ 1925 ♂ *Agelaius phoeniceus* testes smallFebruary 10✓ skeleton
1926 ♂ *Tiger Bittern*February 11

✓ 1927 ♀ *Crax globiceera* largest ovum 6 mm. iris brown, bill from nostrils back: black, bill tip & feet grayish horn color
 ✓ 1928 ♂ " " nostril, " feet greyish horn color testes very small
 length 496, wing 398, spread 1390, tail 360, tarsus 120, wt.: 7 lb. +

February 12✓ skeleton
1929 ♂ *Euthlypis lachrymosa* testes smallFebruary 13✓ skeleton
1930 ♂ *Colinus leucopogon* testes small✓ 1931 ♂ *Muscivora forficata* " "✓ 1932 ♂ *Calocitta formosa* testes 17 mm.✓ 1933 ♂ *Ramphocaenus rufiventris* testes small✓ 1934 ♀ *Amblyscurus holosericeus* ova small

✓ 1935 ♂ " " testes small

✓ 1936 ♂ *Tanagra affinis* small gooy green berries testes 4 mm.

✓ 1937 ♂ " " " " " " testes 3 mm.

✓ 1938 ♂ in *Volatinia jacarina* testes small

✓ 1939 ♂ " " " " " " " "

✓ 1940 ♂ *Sporophila moreletii* " "February 14✓ 1941 ♀ *Tanagra affinis* mistletoe berries oviduct large, ova 2 mm.

✓ 1942 ♂ " " " " " " testes 3.7 mm.

February 15✓ skeleton
1943 ♂ *Colymbus dominicus* testes 3 mm.✓ skeleton
1944 ♂ " " " 3.5 "~~1945~~

Marshall, 1942

18.

Catalog

Lake Olomega, 200 ft., Dept. San Miguel, El Salvador

February 15

✓ 1946	skeleton	♀	Phalacrocorax	diversus	ova small
1947	skeleton	♂ im	"	"	testes 11 mm.
1948	skeleton	♀	Anhinga	anhinga	largest ovum 3 mm.
✓ 1949		♀	"	"	" " " "
1950		♂	"	"	testes small
✓ 1951		♂	Cochlearis	cochlearis	" "
✓ 1952	skeleton	♀	Pandion	haliaetus	ova small
✓ 1953	skeleton	♀	Oreolis	leucogaster	" "
✓ 1954		♀	"	"	largest ovum 3 mm.
✓ 1955	skeleton	♂	Jacana	spinosa	testes 4 mm.
✓ 1956	skeleton	♂ im	"	"	testes 3.5 mm.
✓ 1957		♂ im	"	"	" 3 mm.
✓ 1958		♀	"	"	ovum 1.3 mm.
1959		"	"	"	
✓ 1960	skeleton	♂	Chloroceryle	americana	testes small
✓ 1961	skeleton	♂	"	aenea	" "
✓ 1962	skeleton	♂	Dendrocygna	albicollis	testes 7 mm.
✓ 1963	skeleton	♀	"	"	ovary small
✓ 1964		♂	"	"	testes 7 mm.
✓ 1965		♀	"	"	ova small

February 17

✓ 1966	♂	Hylephila	decurtatus	testes 1.7 mm.
✓ 1967	♀	Poliophtila	lilineata	ovary small
✓ 1968	♂	Platypis	aglaiae	testes 3 mm.
✓ 1969	♂	Quica	caerulea	" small
✓ 1970	♂	Halva	salvini	" "
✓ 1971	♂	Piranga	flava	" "

Marshall, 1942

19.

Catalog

Lake Olomega, 200 ft., Dept. San Miguel, El Salvador

Jan February 17

- ✓1972 ♂ *Tyrannus verticalis* ^{not very fat} testes small
skel.
✓1973 ♂ *Verillornis fuscigatus* testes 4 mm.
skel.
✓1974 ♂ *Claytonia pretiosa* " 9.5 mm.
skel.
✓1975 ♀ " " ova small
skel.

✓1976 ♂ *Amblycercus holosericeus* testes small

✓1977 ♀ *Penelope purpurascens* ^{granular} ovary very small, black, glands
total length: 919, ^(chord) spread wingspread 1095, wing 323, tail 340,
tarsus 82, culmen 33, depth at ant. edge nostril 10.5,
width at ant. nostril 10, ~~tarsus~~ middle toe 62
middle claw ^{22.5} ~~23~~, middle toe + claw 87.

iris & naked throat vermillion, lower lid olive,
naked skin of chin & sides of head deep dusky
blue, bill black, nails slaty, upper surface of
toes & tarsus salmon pink, lower surfaces
dusky

February 18

- ✓1978 ♂ *Dromococcyx phasianellus* testes 4.5 mm.
skel.
✓1979 ♂ *Icterus sclateri* " small
skel.
✓1980 ♀ *Circus virgatus* laying

February 20

- ✓1981 ♂ *Cyanocorpus parellina* testes small
✓1982 ♂ im *Oncostoma cinereigulare* " "
skeleton
✓1983 ♂ *Elania viridicincta* " medium
✓1984 ♀ " " ova small
alcoholic
✓1985 ♂ *Platypicus aglaiae*
✓1986 ♀ *Setophaga ruticilla* ovary small
✓1987 ♂ *Attila spadiceus* Testes 3.5 mm.

Marshall, 1942

20.

Catalog

Lake Olonega, 200 ft., Dept. San Miguel, El Salvador

February 20

- ✓1988 ♂ *Saltator grandis* testes small
✓1989 ♀ *Halia salvini* ova small
✓1990 ♀ *Myiozetetes similis* " "

February 21

- ✓1991 ♂ *Tolmomyias sulphureus* ^{skeleton} feet pink, iris pale gray, claws dusky testes beginning to enlarge
✓1992 ♂ " " " " " 2.5 mm.
✓1993 ♀ *Hylophylus decurtatus* ^{skeleton} ovary small
✓1994 ♀ " " " "
✓1995 ♂ *Veniliornis fuscatus* ^{skeleton} testes small
✓1996 ♂ " " " 3 mm.
✓1997 ♀ " " " Largest ovum 1.8 mm.
✓1998 ♂ *Claytonia pretiosa* l. testis 12 mm.
✓1999 ♀ *Vireo flavifrons* fat ovary small
✓2000 ♀ *Mniotilta varia* " "
✓2001 ♀ *Vireo flavifrons* " "
✓2002 ♂ *Oncostoma cinereigulare* ^{skeleton} testes beginning to enlarge.
✓2003 ♂ *Halia rubra* ^{skin & skeleton} (dark brown border to red) testes small.
✓2004 *Spizæus ornatus*

iris pale yellow, toes cere ^{greener} gape greenish yellow, bill & claws dusky, bill bluish-grey at base & for 1/2 lower mandible wing 352 tarsus 176 depth bill at nares 20 tail 270 culmen 35 width " " " 11.5 length bill from ant edge nostril 27.5 spread 1170 length 626 middle toe + claw 70

- ✓2005 ad ♂ *Crax globicera* ^{skeleton} testes 19 mm.

February 22

- ✓2006 ♂ *Heleodytes rufinucha* ^{skeleton} testes small
✓2007 ♂ ad. *Sterna pectoralis* " 2.5 mm.
✓2008 ♀ im *Volatinia jacarina* ovary small

Marshall, 1942

21.

Catalog

Lake Olomega, 200 ft., Dept San Miguel, El Salvador

February 22

- skeleton
- ✓ 2009 ♂ *Columbigallina rufipennis* testes 10mm.
- ✓ 2010 ♂ " " " 9.5mm.
- ✓ 2011 ♂ " " " 10mm.
- ✓ 2012 ♂ *Dendroica aestiva* testes 1mm.
- ✓ 2013 ♀ " " " ovary small
- ✓ 2014 ♂ *Synallaxis erythrorhax* testes 2mm.
- ✓ 2015 ♀ *Passerina cyanea* ovary small

February 21

- alcoholic
- ✓ 2016 (♂ im) *Cyanerpes cyaneus*

February 23

- alcoholic
- ✓ 2017 (♂ im) *Thamnophilus loliatus*
- skeleton
- ✓ 2018 ♂ *Thryothorus modestus* - testes small.
- ✓ 2019 ♂ *Dendroica aestiva* " "
- ✓ 2020 ♀ *Omychophycus coronatus* largest ovum .8mm
- ✓ 2021 ♂ *Myiarchus cinerascens* testes small
- ✓ 2022 ♀ im (skull with windows) *Icterus gularis* ovary 10mm.
- ✓ 2023 ♂ *Piranga rubra* - testes small
- ✓ 2024 ♀ *Platypsaris aglaiae* ovary small

February 24

- skeleton
- ✓ 2025 ♂ ad *Microtus semitorquatus* iris brown, naked skin & cere greenish-yellow, feet yellow. claws & bill black. creamy-buff phase (chest region) white on head & under tail coverts - no barring below, but proximal half of shafts of breast tracts black. rt. testes 12mm.

- skeleton
- ✓ 2026 ♂ im *Sporophila minuta* in ♀ plumage testes small
- ✓ 2027 ♀ *Empidonax traillii* ovary small
- ✓ 2028 ♀ " " " "
- ✓ 2029 *Geothlypis trichas*
- ✓ 2030 ♂ *Chordeiles acutipennis* testes small

Catalog

Lake Olonega, 200ft., Dept. San Miguel, El Salvador

February 24

- skeleton
✓ 2031 ♂ *Myiochanes cinerea rhizophora* wing 73 testes 2.2 mm.

San Ignacio, 3,000ft., Dept. Chalatenango, El Salvador

March 5

- ✓ 2032 ♀ *S. Spizella passerina* enlarge ovary 7 or 8 mm, ova beginning to
Los Esesmiles, Dept. Chalatenango, El Salvador

March 7

- skeleton
✓ 2033 ♂ *Guetzal* coll. by Stirling fruit in stom testes 12 mm.

March 8

- ✓ 2034 ♂ *Cyanocitta stelleri* testes 7 mm.

March 9

- ✓ 2035 ♀ *Caprimulgus vociferus* almost ready to lay - largest ovum about 6 mm, oviduct enlarged.
✓ 2036 ♂ " " testes enlarged - 8 mm.

March 9

- iris very dark, feet olive-green, lighter below, bill yellow, green on nostril
✓ 2036 ♂ ad *Pharomachrus mocinno* stom: seeds. testes 15 mm.
bill dusky, olive at base, lower mandible iris very dark, feet olive brown (yellowish below) several ova - 3 mm.
✓ 2037 ♀ " " stom: seeds & 1 grasshopper almost ready to lay - oviduct large
✓ 2038 ♂ (im) bill as in ♂, feet as in ♀ " " stom: fruit & seeds. testes large 12 mm.
iris grey, fruit in stom.

- ✓ 2039 ♂ *Turdus rufitorques* bill & feet yellow testes 11 mm

- ✓ 2040 ♂ *Melanotis hypoleucos* iris red testes 9 mm.

- skeleton
✓ 2041 ♀ *Icterus wagleri* immature plumage black throat ova small

- ✓ 2042 ♀ *Caprimulgus vociferus* brooding 2 eggs

March 10

- ✓ 2043 ♂ *Colaptes mexicanoides* l. testes 9.5 mm

- ✓ 2044 ♀ " " ova 3 mm. oviduct lg.

- skeleton
✓ 2045 ♂ *Myadestes unicolor* testes 11 mm.

March 11

- ✓ 2046 ♀ *Zonotrichia capensis* ova 8 mm.

- skeleton
✓ 2047 ♀ " " ovary small

CatalogLos Esesmites, Dept. Chalatenango, El SalvadorMarch 11

- skeleton
 ✓ 2048 ♂ *Melanotis hypoleucos* testes 4mm.
 skeleton
 ✓ 2049 ♂ *Aimophila淑escens* " 8mm.
 skeleton
 ✓ 2050 ♂ *Buarremon brunneinuchus* brought in alive by native " 6mm.
 ✓ 2051 ♀ *Dryobates villosus* beginning brood patch oviduct large ova 2mm.
 ✓ 2052 ♂ *Lamprolaima rhami* testes 2.5 x 3mm.
 ✓ 2053 ♀ *Dendroica townsendi* ovary small
 ✓ 2054 ♂ *Sialia sialis* coll J.D. testes 8mm.
 skeleton
 ✓ 2055 ♂ *Chlorospingus ophthalmicus* " " "

March 12

- skeleton
 ✓ 2056 ♂ *Aspatha gularis* insects in stomach testes 4.5mm.
 skeleton
 ✓ 2057 ♂ *Notiochelidon pileata* testes large
 ✓ 2058 ♀ " " very fat ova small
 ✓ 2059 ♂ *Tanagra elegantissima* full miltlets berries testes 5mm.
 ✓ 2060 ♀ " " beginning brood patch " " " ova 1mm+
 skeleton
 ✓ 2061 ♂ " " " " " testes 6mm.
 skeleton
 ✓ 2062 ♀ " " " " " ovary 4.5mm. ova 1mm.
 ✓ 2063 ♂ *Spinus notatus* perhaps because imm. testes 4mm.
 ✓ 2064 ♀ im " " breast bare as if brood patch ovary small
 skeleton
 ✓ 2065 ♂ " " " " " testes 5.5mm.
 skeleton
 ✓ 2066 ♂ *Troglodytes rufociliatus* testes large
 skeleton
 ✓ 2067 ♀ *Colaptes mexicanoides* ovary 9mm, ova 1.5mm.
 ✓ 2068 ♂ *Aspatha gularis* tail much shorter than 2056 iris brown, up. mand. dark olive, tip & l. mand. & feet olive yellow. testes 3mm. beetles in stomach.
 ✓ 2069 ♂ *Penelopina nigra* coll J. Sykes. iris red testes 1cm.

March 13

- skeleton
 ✓ 2070 ♂ *Turdus rufitorques* testes large
 ✓ 2071 ♂ *Dryobates villosus* beginning brood patch testes 5mm.
 ✓ 2072 ♂ *Buarremon brunneinuchus* testes 7mm.

Marshall, 1942

24.

Catalog

Los Esmeriles, Dept Chalatenango, El Salvador

March 13

- + body skel.
✓ 2073 ♀ *Lepidocolaptes leucogaster* breast large: beginning brood patch; oviduct large, ovary 9 mm, ova 2 mm.
iris dark (dusky? or dark grey?) lower mandible & edge to min basal $\frac{2}{3}$ upper mandible very light grey, rest upper mandible black, feet blue-grey.
humeri with body skel; rest of bones in skin intact.

skel

✓ 2074

♂?

Catharus occidentalis

skel

✓ 2075

♀

"

"

ovary small

skel

✓ 2076

♂

Elania obscura

coll. J. Davis. testes 7 mm.

March 14

- ✓ 2077 ♀ *Notiochelidon* ^{very fat.} *pileata* iris very dark, bill deep sooty brown, claws dark brown, feet flesh color lighter below. ova small
✓ 2078 ♂ *Myadestes unicolor* testes 14 mm.
✓ 2079 ♀ *Mnioborus miniatus* ovary small
✓ 2080 ♀ *Wilsonia pileolata* " "
✓ 2081 ♂ *Chlorospingus ophthalmicus* testes 5 mm.
✓ 2082 ♂ " " 8 mm.
✓ 2083 ♂ *Elania obscura* " 7 mm.
✓ 2084 ♂ *Aspatha gularis* beetles in stom coll. Hildebrand Davis Mar 15 " 5 mm.
✓ 2085 ♂ *Chlorospingus ophthalmicus* coll. M. Hildebrand " very large
✓ 2086 ♂ *Anlaeobrychus prasinus* coll. M. Hildebrand " 7 mm.
✓ 2087 ♂ *Penelopina nigra* fruit in stom. testes 17 mm.

March 15

- ✓ 2088 ♀? *Oiglossa barbitula* gonads small could well have been ova 2 testes? found not in place ^{well in mass tissue}
+ body skel - all bones & skull O.K. in skin.
✓ 2089 ♂ *Hemicorhina leucophrys* testes 5.5 mm.
✓ 2090 ♂ *Turdus infuscatus* iris brown, bill mottled dark brown & yellowish, feet yellowish-br., claws darker. testes 9.5 mm.
✓ 2091 ♂ " *plebejus* testes 14 mm.
✓ 2092 ♀ im *Troglodytes infociliatus* ovary small
✓ 2093 ♂ im " " testes 6 mm.

Marshall, 1942

25.

Catalog

Los Eses miles, Dept. Chalatenango, El Salvador

March 15

- ✓ 2094 ♂ *Myadestes unicolor* testes 13 mm.
- ✓ 2095 ♀ *Chlorospingus ophthalmicus* blackberries leaves, laying
skeleton ^{other berries & fruit} ^{2 to go - one with shell}
- ✓ 2096 ♀ *Dendrocygna leucophrys* laying
- ✓ 2097 ♂ *Amphispiza rufescens* testes large
- ✓ 2098 ♂ *Lamprolaima rhani* bought from native, heavy molt testes 2 mm.
- ✓ 2099 ♂ " " " " " " " " small
- ✓ 2100 ♂ " " " " " " " " "
- 2101 ♀ *Hylocharis leucotis* Note → very doubtful - too large - perhaps ♀ *Lamprolaima*
skeleton ova medium
- ✓ 2102 ♂ *Pharomachrus mocinno* " " " " " " " " testes 12 mm.

March 16

- ✓ 2103 ♂ *Zonotrichia capensis* testes 3 mm.
- ✓ 2104 ♂ *Melospiza lincolni* testes 1 mm.
- ✓ 2105 ♂ *Elaenia obscura* pure black plumage; eyering, bill, feet 6 mm.
- ✓ 2106 ♂ *Turdus infuscatus* yellow, iris brown. " 12 mm
- ✓ 2107 ♂ *Penelopina nigra* coll. M.H. testes 17 mm.

March 17

- ✓ 2108 ♂ *Aphelocoma unicolor* coll. M.H. 1. testis 17 mm.
- ✓ 2109 ♂ " " " " " " " " testes 11 mm.
- ✓ 2110 ♂ " " " " " " " " " 9 "
- ✓ 2111 ♂ *Turdus infuscatus* eying, bill, feet yellow testes 9 mm.
- ✓ 2112 ♀ " " eying olive, bill dark olive-dusky, feet yellow-olive
oviduct large, largest ovum 3 mm.
- ✓ 2113 ♀ " *plebejus* carrying moss for nest brood patch ova 5 mm.
- ✓ 2114 ♀ " " " " " " " " ova 2 mm.
- ✓ 2115 ♂ " " " " " " " " testes very large
- ✓ 2116 ♀ " " " " " " " " ova 4 mm.
- ✓ 2117A ♂ *Diglossa barbitula* beginning brood patch probably taken here (see sp. acc't.)
- ✓ 2117B ♂ *Diglossa barbitula* molting, very fat, testes 1.3 mm.
- ✓ 2118 ♂ " " " " " " " " 1.5 mm.

Marshall, 1942

26.

Catalog
Los Esmerales, Dept. Chetatenango, El Salvador
March 17

- ✓ 2119 ♂ *Buarremon brunneinucha* c.g.p. testes large
skeleton
✓ 2120 ♀ *Atlapetes gutturalis* ovary small
skeleton
✓ 2121 ♂ *Hemicorhina leucophrys* c.g.p. testes large.
skeleton and skin skel. not all ok. 2 bristles of tibiae
✓ 2122 ♂ *Catharus occidentalis* testes large: 8mm.

- March 18
- ✓ 2123 ♂ *Diglossa barbitula* c.g.a. (testes small)
skeleton moulted, very fat testes 1+ mm.

- March 19
- alc. alcoholic
✓ 2124 ♀? *Aspatha gularis* brood patch
" " " large both - filled up stom.; all in 1 piece.
✓ 2125 ♂? " " c.g.a. " " testes 4mm.
✓ 2126 ♀ *Vermivora peregrina* ovary small
cloacal glands present. (medium)
✓ 2127 ♂ im *Catharus occidentalis* testes 5mm.

- March 20
- ✓ 2128 ♀ *Chlorospingus ophthalmicus* ovary rather small
skeleton
✓ 2129 ♂ *Basileuterus belli* c.g.p. testes 7.5mm.
✓ 2130 ♂ *Aimophila rufescens* c.g.p. testes 9mm.
✓ 2131 ♀ *Wilsonia pusilla* not very fat ovary small
✓ 2132 *Oporornis tolmiei*
✓ 2133 ♂ *Tanagra elegantissima* c.g.p. mistletoe berries testes 6mm.
✓ 2134 ♀ *Mnioborus minatus*
✓ 2135 ♀ *Dendroica virens* ovary small.

- March 21
- ✓ 2136 ♀ ~~*Colaptes auratus*~~ *Doricha enicura* " "
✓ 2137 ♀ im. *Empidonax flavescens* ovary 5mm.
✓ 2138 ♀ im. " " " 5mm.
skeleton
✓ 2139 ♂ " " testes 4.5mm.
✓ 2140 ♀ *Tanagra elegantissima* to early brood patch laying
skeleton
✓ 2141 ♂ *Elania obscura* c.g.p. testes 6mm.

Marshall, 1942

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Catalog

Los Esesmites, Dept. Chalatenango, El Salvador

March 21

- ✓2142 ♂ *Chlorospingus ophthalmicus* c.g.p. testes 6 mm
skeleton
✓2143 ♂ " " c.g.p. " 8 "
+ body skel. skull, tarsi, etc. intact in skin.
✓2144 ♂ *Cryptoglanx* (feathers in stom. testes fairly large. " 6.5 mm.
c.g.a.

iris yellow, bill blackish (dull) tip mx. grey, claws blackish,
feet pale buffy, same color as feathers of tarsus.

- ✓2145 ♂ *Otoc trichopsis* beetles & orthoptera c.g.a. testes 5 mm.

March 22

- skeleton
✓2146 ♂ *Myadestes unicolor* c.g.p. testes very large

March 23

- ✓2147 ♀ in *Empidonax flavescens* oviduct ova enlarging.
✓2148 ♂ in " *hammondi* testes small
✓2149 ♂ *Eugenes fulgens* testes very small
✓2150 ♀ *Lamprolaima shani* ova medium.
✓2151 ♂ *Ludus infuscatus* (feet duller) bill, ft., eyeing yellow. testes 13 mm.
+ body skel.
✓2152 ♂ *Dendrotyx leucophrys* blackberry seeds in stom. testes 8 mm.
skeleton
✓2153 ♂ *Myadestes obscurus* c.g.p. testes very large
ovary in formalin
✓2154 ♀ *Caprimulgus vociferus* ova not very large
✓2155 ♂ *Passerina cyanea*
✓2156 ♀ *Elania obscura*

March 24

- skeleton
✓2157 ♀ *Tiaris olivaceus* ovary small
+ body skel. - No bones in skin cut except tail. c.g.p.
✓2158 ♂ *Automolus veraepacis* testes 7 mm.

iris dark dusky-purple, feet greenish olive, bill dark olive
horn color fading to light grey on ventral surface.

- ✓2159 ♀ in *Catharus occidentalis* oviduct enlarging, ova 2 mm.
✓2160 ♂ *Atlapetes gutturalis* testes 7 mm.
✓2161 ♀ *Sialia sialis*

Marshall, 1942

28.

Catalog

Los Esmeriles, Dept, Chalatenango, El Salvador

March 24

- ✓2162 ♀ *Aulacorhynchus prasinus* laying
- ✓2163A ♀ *Empidonax hammondi*
- ✓2163B ? *Myiochanes v. richardsoni*
- ✓2164 ♂ *Aimophila rufescens* testes 4 mm.
- ✓2165 ♂ *Caprimulgus vociferus* testes 9 mm.
- skel. & skin ✓2166 ♂ *Cryptoglaux* ^{wing 133 tail 66 tarsus 25 middle toe + claw 23.5} ^{iris greenish-yellow} ^{bill & claws dusky, bluish at base (l. mandible)} ^{culmen 18 from nostril 11} ^{depth 10 - width 6} ^{hair in stomach.} ^{culmen from anterior cere = 12}

March 25

- ✓2167 ♂ *Empidonax flavescens* testes 6 mm.
- ✓2168 ♀ " *hammondi*
- ✓2169 ♂ *Cissilopha melanocyanea* testes 11 mm.
- skel. ✓2170 ♀ " "
- skel. ✓2171 ♀ *Empidonax flavescens*
- ✓2172 ♀ ? " *hammondi*
- ✓2173 ♂ *Myadestes unicolor* testes 11 mm.
- ✓2174 ♂ *Buarremon brunnernechus* " 8 mm.
- ✓2175 ♀ *Lepidocolaptes affinis* largest ovum 2.5 mm.
- ✓2176 ♂ *Aphelocoma unicolor* testes 10 mm.
- ✓2177 ♀ " " no brood patch
ova & oviduct enlarged
- skel. ✓2178 ♂ " " 1. st testis 18 mm.
- skel. ✓2179 ♂ *Cyanolyca punilo* insects in stom. testes 8 mm.
large flying insect in stom. oviduct about 2 mm cross sect.
- ✓2180 ♀ *Strix fulvescens* at ovary about 4 ova 2 of them 1. ovary 8 mm.
bill & ft. yellow, iris dark, nails becoming black at tips are the largest in the bird - 1.3 mm diam.
No old follicles

March 26

coll. R.A.S.

- skel. ✓2181 ♀ *Cyanolyca punilo* grasshoppers ova 2 mm.
- skel. ✓2182 ♂ *Cassidix mexicanus* c.g.p. testes large
- skel. ✓2183 ♂ *Henicorina leucophrys* c.g.p. " 5 mm.
- skel. ✓2184 ♂ *Catharus occidentalis* c.g.p. " 8.5 mm.
- ✓2185 ♀ *Atlapetes gutturalis* ovary small

Marshall, 1942

29.

Catalog
Los Esmeriles Dept. Chalatenango, El Salvador

March 26

- ✓2186 ♂ *Atlapetes gutturalis* testes 1.3 mm
✓2187 ♀ " " probably immature ovary small
✓2188 ♂ *Tiaris olivaceus* testes small
✓2189 ♂ *Empidonax flavescens* " 6 mm.
✓2190 ♀ ~~*Colaptes lucifer*~~ *Doricha ericaria* ovary small
✓2191 ♂ *Colaptes mexicanoides* testes 9 mm.

March 27

- ✓2192 ♂ *Basileuterus belli* c.g.p. testes 6 mm
✓2193 ♂ *Buarremon brunneicuchus* testes smallish
✓2194 ♀ im *Troglodytes musculus* no brood patch but ova small carrying nest twig ovary large

March 28

- formalin 2195 *Anolis*
formalin 2196 Frog Taken in brush pile edge slide 25 yds above stream on steep cloud forest hillside.
✓2197 ♀ *Dendroica occidentalis* very fat. ovary small
✓2198 ♀ *Wilsonia pusilla* ovary small

March 27

- ✓2199 ♀ ad *Strix fulvescens* 1 large tree frog, 1 huge green katydid, 1 lg. flying insect in stom. ovary small, oviduct not obvious, st. ovary smaller, ova 2.5.
Coloration same as 2180. Breast entirely bare, involving all feather tracts except 2 main ones, one on each side, skin wrinkled. ✓ in 2180

March 29

- ✓2200 ♂ *Pseudramus olivaceus* testes very large
✓2201 ♂ im *Notiochelidon pileata* testes " " 6 mm.
✓2202 ♀ *Turdus infuscatus* large active brood patch
✓2203 ♀ ♀ *Myadestes unicolor* " " " "
✓2204 ♀ *Mniotilta tuberculifera* " " " "

Marshall, 1942

30.

Los Esesmites, Dept. Chalatenango, El Salvador

March 30 Tarsus 26, culmen 24, bill from
ant edge nostril 17
depth at " " " 6.4
width " " " 5
tail 86

- ✓ skeleton & skin 2205 ♀ *Automolus veraepacis*
- ✓ skeleton 2206 ♂ *Myioborus miniata* egg. testes large
- ✓ skeleton 2207 ♀ *Notiochelidon pileata* rather large oviduct present ova 1 mm.
- ✓ skeleton 2208 ♀ *Chlorospingus ophthalmenus*
- ✓ 2209 ♀ im *Tiaris olivaceus* ovary small
- ✓ 2210 ♀ " " " "
- ✓ 2211 ♂ im *Diglossa barbitula* testes small
- ✓ 2212 ♂ *Lepidocolaptes affinis* cloacal tubules not present. testes 8 mm.
- ✓ 2213 ♂ *Lepidocolaptes leucogaster* tarsus 23, tail 97
culmen 32, bill from ant end nostril 24.5
depth at " " " 6.7
width at " " " 5.3
probably 87
left testis 15 mm.
- ✓ 2214 ♀ ? *Wilsonia pusilla*
- ✓ 2215 ♂ *Catharus occidentalis* testes 10 mm.

March 31

- ✓ 2216 ♀ *Melospiza lincolni* ovary small
- ✓ 2217 ♂ *Notiochelidon pileata* testes rather large
- ✓ 2218 ♀ " " fat ova 1 mm.
- ✓ 2219 ♂ " " fat testes large
- ✓ 2220 ♂ *Turdus infuscatus* bill yellow & brown feet " - brown " " 11 mm.
- ✓ 2221 ♂ *Bombycilla cedrorum* testes small

~~West slope Los Esesmites, Dept. Chalatenango, El Salvador~~

✓ 2222 ♀ juv *Cyanolyca pusilla*

✓ 2223 ♂ juv " "

West slope Los Esesmites, Dept. Chalatenango, El Salvador

- ✓ 2224 ♂ *Caprimulgus vociferus* testes 10 mm.
- ✓ 2225 ♂ " " " 9 "
- ✓ 2226 ♂ *Bubo virginianus* testes 7.5 mm.

Marshall, 1942

31.

Catalog

West slope Los Crescencios, Dept. Chalatenango, El Salvador

March 31

- ✓ 2227 ♂ *Otus trichopsis* insects in stom. testes 5mm
✓ 2228 ♀ " " " " " largest ovum 2mm.

April 1

- ✓ 2229 ♂ *Chordeiles acutipennis* very fat testes 2mm.
✓ 2230 ♀ " " " " ovary small
✓ 2231 ♂ *Empidonax fulvifrons* testes 5mm.
✓ 2232 ♂ " " " " " " "
skeleton
✓ 2233 ♂ *Pencedramus olivaceus* " " "
✓ 2234 ♀ " " " " ovary active
skeleton
✓ 2235 ♂ im *Heleodytes zonatus* testes (large) 6mm
skeleton
✓ 2236 ♀ ad " " " " ovary very small
✓ 2237 ♀ im " " " " small
✓ 2238 ♀ im " " " " "
✓ 2239 ♀ im " " " " "
✓ 2240 ♀ im " " " " "
skeleton
✓ 2241 ♂ *Melospiza biarcuatum* testes small 1.6mm.
✓ 2242 ♀ *Aimophila rufescens* ovary rather small
✓ 2243 ♂ *Cyanocitta stelleri* testes 8mm.
✓ 2244 ♂ " " " " 9 "
✓ 2245 ♂ *Icterus wagleri* testes 5mm.
✓ 2246 ♀ *Piranga flava* ova small
✓ 2247 ♂ *Colaptes mexicanoides* testes 7mm

all: iris light
dull (greyish) cream
feet yellowish brown (light)
upper mandible dusky
lower " 9 mm upper
pinkish-grey

~~2248~~ Pit viper April 3

- ✓ 2248 ♂ ad *Atlapetes gutturalis* testes enlarged: 4mm.

Los Crescencios, Dept. Chalatenango, El Salvador

April 43

- 2249 *Thamnophis* taken on trail on ridge, cloud forest
on 1 side, brush on other. At night.

Marshall, 1942

32.

Catalog

Los Esesimiles, Dept. Chalatenango, El Salvador

April 4

- ✓ 2250 ♂ *Vermivora superciliosa* c.g.p. breeding testes 5+mm
skeleton
✓ 2251 ♂ *Lamprolaima amethystinus* testes small
skeleton
✓ 2252 ♂ ad *Diglossa barbitula* very fat " 2mm.
skeleton
✓ 2253 ♀ ad " " " " ovary small
✓ 2254 ♀ im " " very fat! ovary small
✓ 2255 ♀ im *Henicorhina leucophrys* fat ovary 5.5, oviduct visible
✓ 2256 ♂ ad *Tiaris olivacea* testes 2mm.
skeleton
✓ 2257 ♂ ad *Basileuterus belli* c.g.p. " 8mm.
✓ 2258 ♂ *Nuttallornis borealis* very fat testes 2.5

W. slope Los Esesimiles, Dept. Chalatenango, El Salvador

April 6

- ✓ 2259 ♀ *Nuttallornis borealis* very fat ova small.
✓ 2260 ♂ *Empidonax fulvifrons* testes 5.5mm.
✓ 2261 *Basileuterus delatourii*
✓ 2262 ♂ *Melospiza fasciata* testes 2.5mm.
✓ 2263 ♂ ad *Heleodytes zonatus* iris orange-red. testes 7mm.
✓ 2264 ♀ ad " " " orange ovary enlarging
✓ 2265 ♀ ad " " " - red. " "
skeleton
✓ 2266 ♂ *Thryothorus modestus* testes 1.5mm.
skeleton
✓ 2267 ♂ *Geococcyx velox* " 8mm
skeleton
✓ 2268 ♂ *Myiochanes pertinax* testes 9mm.

San Ignacio, 3000 ft., Dept. Chalatenango, El Salvador

- ✓ 2269 ♀ *Passer spizella passerina* bill black. ovary large
✓ 2270 ♂ *Dendroica graciae* testes 6mm.

1 mi E Cerro de los Naranjos, 5900 ft., Dept. Santa Ana

April 11

- ft. yellow, eyering & sides of bottom
bill orange - duller than ♂, tip bill olive, culmen black
✓ 2271 ♀ *Catharus aurantiirostris* beginning brood patch - laying

Marshall, 1942

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Catalog

1 mi. E Cerro de Los Naranjos, 5900 ft., Dept. Santa Ana, El Salvador

April 11

- ✓ 2272 ♂ ad Empidonax ~~tracillii~~ ^{albigularis} but not very wide testes rather large: 4 mm.
alcoholic
✓ 2273 ♂ Diglossa barbitula
✓ 2274 ♀ ad Volatinia jacarini ovary & ova small
✓ 2275 ♀ Troglodytes mexicanus coll. Davis ova enlarging, oviduct visible
✓ 2276 ♂ Turdus rufitorques testes 12 mm.
skeleton
✓ 2277 ♂ Volatinia jacarini testes large
skeleton
✓ 2278 ♂ Vermivora superciliosa testes 4 mm.
skeleton
✓ 2279 ♂ Catharus aurantirostris testes 6.5 mm.

Cerro del Aguila, 6000 ft., Dept. Santa Ana, El Salvador

- ✓ 2280 ♂ Hylocichla ustulata very fat coll. M.H. testes small
✓ 2281 ♂ Myadestes obscurus. 3500 ft. coll. M.H. " 11 mm.

228
skeleton

April 12 5500 ft.

- ✓ 2282 ♂ Thryothorus rufalbus testes 5 mm.
skeleton
✓ 2283 ♂ Myiodynastes luteiventris 2284 much yellower & wider bill than testes 8 mm.
✓ 2284 ♀ " " ova 2.5 mm.
skel. & skin
✓ 2285 ♂ Chaetura richmondi very fat testes small
✓ 2286 ♂ " " " 3 mm.
✓ 2287 ♀ Trogon violaceus ova 2 mm.
✓ 2288 ♂ Tyrannus verticalis testes small
✓ 2289 ♂ Myiochanes virens testes small
✓ 2290 ♂ in Empidonax flavescens testes ^{very} large
✓ 2291 ♂ Thryothorus maculipectus testes large
✓ 2292 ♂ in " modestus " 4.5 mm.
✓ 2293 ♂ Myadestes obscurus testes 13 mm.
✓ 2294 ♂ Melospiza biarcuatum " 5 mm.

Marshall, 1942

34.

Catalog

2 mi ne Cerro de Los Naranjos, 5200 ft., Dept. Santa Ana, El Salvador

April 13

✓ 2295 ♂ *Momotilta virens* testes small

✓ 2296 ♂ *Dendroica virens* " "

Cerro de Los Naranjos, 5500 ft., Dept. Santa Ana

✓ 2297 ♂ *Thryothorus rufalbus* testes 8 mm.

✓ 2298 ♀ " " ova small

April 14

✓ 2299 ♂ *Thryothorus rufalbus* testes large
skeleton

✓ 2300 ♀ *Chlorophonia occipitalis* brood patch starting laying

✓ 2301 ♀ " " ova 3 mm.

✓ 2302 ♂ *Vermivora superciliosa* testes large
skeleton

✓ 2303 ♀ " " no brood patch ovary small

✓ 2304 ♂ *Chamaethlypis poliocephala* testes medium
skeleton

✓ 2305 ♀ " " ovary small

✓ 2306 ♂ *Piranga leucoptera* orange body plumage testes large
skeleton

✓ 2307 ♂ " " "very "

✓ 2308 ♂ " " " " "

✓ 2309 ♀ *Vireo solitarius* fat ovary small

✓ 2310 ~~*Calothorax lucifer*~~ *Erethia ericaria*

✓ 2311 ♂ *Sabrewing* rufous testes 3 mm.

Cerro del Aguila, 5500 ft., Dept. Santa Ana

April 15

✓ 2312 ♀ im *Catharus aurantirostris* upper mandible mostly black no brood patch
ova 6 mm.

✓ 2313 ♀ ad " " upper mandible mostly black
very fat; brood patch

✓ 2314 ♀ *Seiurus aurocapillus*

✓ 2315 ♂ *Myadestes obscurus* berries testes large

✓ 2316 ♂ *Cissolopha melanogaster* " "

✓ 2317 ♂ *Tityra semifasciata* " "

Marshall, 1942

35.

Catalog

Cerro del Aguila, 5500 ft., Dept. Santa Ana, El Salvador

April 16

skeleton

- ✓2318 ♂ *Sporophila moreletii* testes 2.5 mm.
bill & eyering orange, feet yellow
✓2319 ♂ *Catharus aurantirostris* c.g.p. testes large
✓2320 ♂ *Piranga bidentata* testes large

Laguna de las Ranas (n-w side Cerro del Aguila), 5500 ft +

skeleton

- ✓2321 ♂ *Vermivora superciliosa* testes large
✓2322 ♀ " " ovary small

skeleton

- ✓2323 ♂ *Troglodytes rufociliatus* testes very large

skeleton

- ✓2324 ♀ *Empidonax flavescens* ova large
several juvenal buff-tipped c.g.p.

skeleton

- ! ✓2325 ♂ *Turdus assimilis* greater coverts present, wings short. testes very large

skeleton

- ✓2366 ♂ ad " " " " " "

- ✓2367 ♂ " " iris brown, eyering yellow, bill yellowish-olive, dusky at base upper mandible, feet light olive. c.g.p. " " "

skeleton

- ✓2368 ♀ *Crotophaga sulcirostris* ova small

- ✓2369 *Anthus rubescens*

- ✓2370 ♂ *Hylocichla ustulata* testes smallish

- ✓2371 *Empidonax hammondi*

- ✓2372 ♂ *Melospelia asiatica* testes 10 mm.

- ✓2373 ♂ *Tangarus aeneus* " large

- ✓2374 ♂ *Turdus infuscatus* "very"

2375-2380 Fraags

1 mi E Cerro de los Naranjos, 5800 ft., Dept. Santa Ana

April 18

- ✓2381 ♂ *Empidonax albigularis* breeding? (a pair - pursuing each other) no fat. testes 6 mm.

Volcan de Santa Ana, Dept. Santa Ana, El Salvador

skeleton

- ✓2382 ♂ ad. *Thraupis abbas* n. slope, 5300 ft. testes 7 mm.

skeleton

- ✓2383 ♂ *Spinus psaltria* " " " "

skeleton

- ✓2384 ♀ *Geococcyx velox* " " " " ova 4 mm

- ✓2385 ♀ *Turdus assimilis* " " 6000 ft. early brood patch over & oviduct beginning to enlarge

Marshall, 1942

36.

Catalog

Volcan de Santa Ana, Dept. Santa Ana, El Salvador

April 18

- skeleton (+ brood patch)
✓ 2386 *Mnioburnus minutus* n. slope 6500 ft.
probably ♂, gonads came out when gutted - ♀s don't do this (!)
✓ 2387 *Hylarchia ustulata* " " " "
✓ 2388 ♀ *Vermivora peregrina* summit 7200 ft ovary sm.
not saved - " still in heavy molt = " shot balled, etc. " "
~~2389~~ ♀
✓ 2390 ♀ *Turdus rufitorques* " " brood patch
skeleton ♀ 1st yr. gter. coverts with buffy tips " " brood patch
✓ 2391 ♀ " " " " ovum 8 mm.
alcoholic
2392 Snake 487+106 n. slope 6500 ft.

1 mi NE Cerro de los Naranjos
La Cumbre, 5200 ft.,

Dept. Santa Ana, El Salvador

April 20

- skeleton
✓ 2393 ♂ *Turdus grayi* } iris light brown, testes very large
bill yellow-green at distally,
→ olive basally, ft. light
olive-gray ovum 2 mm.
✓ 2394 ♀ " no brood patch
skeleton
✓ 2395 ♂ *Disclaterus delatitri* testes very large, (g.p.)
✓ 2396 ♂ *Dendroica magnolia* testes small
✓ 2397 ♂ *Piranga ludoviciana* " "
✓ 2398 ♀ *Thraupis abbas* ovary small
✓ 2399 ♀ " " ora 1.5 mm.
✓ 2400 ♂ " " testes 5 mm.
✓ 2401 ♀ *Mniotilta varia*

1 mi. e Cerro de los Naranjos, 5900 ft., Dept. Santa Ana

April 21

- skeleton imperfect
✓ 2402 ♂ *Empidonax albigularis* testes 5.5 mm.
upper mandible 9 ft. black } oviduct large
" lower " pale flesh, } no brood patch
Tomium yellowish } largest ovum 1 mm
has not bred before.
✓ 2403 ♀ " "
✓ 2404 ♀ *Atlapetes gutturalis* oviduct & ovary beginning to enlarge

2 mi. ne. Cerro de los Naranjos, 5200 ft., Dept. Santa Ana

- ✓ 2405 ♀ *Guiraca chlorocilla* fat ovary small

April 22

- ✓ 2406 ♂ *Sporophila moreletii* testes 2 mm.

Catalog

Cerro de los Naranjos, 5500 ft., Dept. Santa Ana, El Salvador
April 22

- ✓ 2407 ♀ *Empidonax traillii* very fat ovary small
- ✓ 2408 ♂ *Thryopsis abbas* testes 8 mm.
- ✓ 2409 ♂ *Crypturellus cinnamomeus* testes 25 or 30
- ✓ 2410 ♂ ad *Icterus maculi-alatus* testes 5 mm.
- ✓ 2411 ♀ *Thryothorus rufalbus* carrying nest material
ova & oviduct enlarging
- ✓ 2412 ♂ *Basileuterus delatitii* egg. 1/2 size very large
- ✓ 2413 ♀ " " no brood patch ova small
- ✓ 2414 A ♀ *Crypturellus cinnamomeus* laying - 1 egg with shell, 1 yolk
- ✓ 2414 B ♀ *Vireo gilvus* fat ovary small
- ✓ 2415 ♂ *Basileuterus culicivorus* testes very large
- ✓ 2416 ♀ " " no brood patch
ova enlarging
- ✓ 2417 ♂ " " crown yellow testes very large egg.
- ✓ 2418 ♂ " " " 8 mm. " " " "
- ✓ 2419 ♀ " " ova small, oviduct enlarging
LM violet at tip, very light gray
- ✓ 2420 ♂ *Rhynchocyclus brevirostris* testes 9.5 mm.
- ✓ 2421 ♂ im " iris dusky, ft. head color, um black except tip
outer web outer primary not rough mm.
- ✓ 2422 ♂ *Chlorophonia occipitalis* testes 6 mm.
- ✓ 2423 ♀ " " oviduct & ova enlarged brood patch
- ✓ 2424 ♂ *Chamaethlypis poliocephala* testes large
- 1 mi. e. Cerro de los Naranjos, 5900 ft., Dept. Santa Ana
- ✓ 2425 ♂ ad *Grallaria guatemalensis* From: orthoptera & beetles
trapped by M.H. testes 6 mm.

Cerro del Aguila, 5500 ft., Dept. Santa Ana

April 24

- ✓ 2426 ♂ *Empidonax flavescens* testes 6.5
- ✓ 2427 ♂ *Chlorophonia occipitalis* " large egg.
- ✓ 2428 ♂ *Tapera naevia* " 6
- ✓ 2429 ♀ *Chaetura richmondi* salivary glands greatly enlarged ova 1.5
- ✓ 2430 ♂ *Amorphula rufescens* egg. testes rather large

Marshall, 1942

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Catalog

Cerro del Aguila, 5500 ft., Dept. Santa Ana, El Salvador
April 24

- ✓ 2431 ♂ *Atlapetes gutturalis* cgp. testes very large
✓ 2432 *Oporornis tolmiei*
✓ 2433 ♀ *Passerina cyanea* very fat ovary small

~~2434~~ del Aguila
Cerro de las Navajas, 5000 ft., Dept. Santa Ana

April 25

- ✓ 2434 ♂ *Euphonia albicularis* (yellow below) wing short testes 6 & 7 mm
✓ 2435 ♂ " " " 6 mm.
✓ 2436 ♂ " " " 4.5 mm.
✓ 2437 ♂ *Geothlypis trichas* " small
✓ 2438 ♂ *Hummer Chlorostellion canivetii* " "
✓ 2439 ♀ *Myiozetetes similis* rather fat ova very small

April 26

- ✓ 2440 ♀ *Icterus sclateri* ovary small
+ partial skel.
✓ 2441 ♀ " bill black, base mandible & feet light blue-grey. ova small
✓ 2442 ♂ " same as 2441 (basal part feathers behind ears
black - more black on auriculars, black ends on

chest in definite line, larger: wing 95. testes small

- ✓ 2443 ♂ *Paranga leucoptera* 5500 ft. cgp. testes large
✓ 2444 ♂ *Hylorichla ustulata* " testes small, black
✓ 2445 ♂ *Vireo gilvus* " " "
✓ 2446 ♂ *Myiarchus cinerascens* " " "

April 27

- ✓ 2447 ♀ *Myiozetetes similis* 5000 ft. ovary rather large.
✓ 2448 ♂ *Abellia abellii* 5500 ft. " very fat testes very small
✓ 2449 ♀ *Sporophila moreletii* 5000 ft. ova enlarging
✓ 2450 ♂ *Myioborus miniatus* 5500 ft. testes very large cgp. about 2 mm.
✓ 2451 ♂ *Hylorichla ustulata* " testes enlarging
✓ 2452 ♀ *Melospiza cinerea* " " "

Marshall, 1942

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Catalog

Cerro del Aguila, 5000 ft., Dept. Santa Ana, El Salvador

April 27

- ✓2453 ♂ *Icterus sclateri* testes large
skeleton
✓2454 ♀ " " early brood patch laying
skeleton
✓2455 ♀ *Melospiza cinerea* " " " "

April 28 5500 ft.

- ✓2456 ♂ *Lanius ludovicianus* testes small
skeleton
✓2457 ♂ " "
skeleton
✓2458 ♂ *Amphispiza bilineata*
✓2459 ♂ *Myadestes occidentalis* testes very large
✓2460 ♂ *Dactylopteryx thoracicus* 5000 ft. " about 10 mm.
alcoholic
✓2461 ♂ *Catharus aurantiirostris*

April 29

- ✓2462 ♀ *Piranga ludoviciana* ovary small
✓2463 ♂ *Wilsonia pusilla* testes "
✓2464 ♀ *Vermivora superciliosa* laying; brood patch
✓2465 ♀ *Spinus psaltria* 1st, molting ovary small

2 mi. ne Cerro de los Naranjos, 5000 ft., Dept. Santa Ana

- ✓2466 ♀ *Dendroica aestiva*

Chilata, 2000 ft., Dept. Sonsonate, El Salvador

May 1

- ✓2467 ♂ *Thraupis cana* testes large, e.g.p.
skeleton
✓2468 ♀ *Saltator grandis* ova beginning to enlarge
✓2469 ♂ *Vireo olivaceus* testes very large e.g.p.
✓2470 ♀ *Myiochanes cinerea* almost ready to lay
✓2471 ♀ *Crotophaga sulcirostris* ova beginning? to enlarge

May 2

- ✓2472 ♀ *Tyranniscus vilissimus* brood patch
skeleton
✓2473 ♀ *Myiochanes cinerea* " "
skeleton
✓2474 ♀ *Basileuterus culicivorus* laying

Marshall, 1942

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Catalog

Chilata, 2000ft., Dept. Sonsonate, El Salvador

May 2

- ✓ 2475 ^{skeleton} ♀ *Rhamphocelus* *flaviventris* *rufiventris*
✓ 2476 ^{skeleton} ♂ *Tolmomyias* *sulphurescens* testes very large
✓ 2477 ♂ *Turdus* *assimilis* " " "
2478 ♂ *Cyanerpes* *cyaneus* " " "
2479 ♀ *Polioptila* *bilineata*
✓ 2480 ♀ *Empidonax* *flaviventris* ovary small

May 3

- ✓ 2481 ^{skeleton} ♀ juv. *Nyctanassa* *violacea* *bancrofti* " "
wing 286, tail 99, exposed culmen 70, depth 21, tarsus 102,
middle toe-claw 68 iris orange-red
✓ 2482 ^{skeleton} ♀ *Sancerottia* *devillei* ovary small
✓ 2483 ^{skeleton} ♂ *Synallaxis* *erythrorhous* testes medium
✓ 2484 ^{skeleton} ♂ *Amazilia* *rutila* " large
✓ 2485 ♂ *Icterus* *pectoralis* "very" esp.

May 4

- ✓ 2486 ♂ *Campylopterus* *hemileucurus* testes 2.5 mm.
✓ 2487 ♂ *Dendroica* *aestiva* " small
✓ 2488 ♂ *Cyanerpes* *cyaneus* "very large
✓ 2489 ♂ *Vireo* *olivaceus* " " "
✓ 2490 ♂ *Melospiza* *biacincta* " " "
✓ 2491 ^{skeleton} ♀ *Salpinctes* *atrigularis* ova enlarging
✓ 2492 ^{alcoholic} ♂ *Chrysomitris* *linearis*
✓ 2493 ^{alcoholic} ♀ ?
✓ 2494 ^{skeleton} ♀ *Nyctidromus* *albicollis* with young - 2495 - also
about ready to lay egg
coll. RA Storer
✓ 2495 juv " "

May 5

- ✓ 2496 ^{skeleton} ♀ *Volatinia* *jacarini* ovary small
✓ 2497 ♂ *Chlorostilbon* *canivetii* same as 2438 testes small

Marshall, Jr., 1942

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Catalog

Chilata, 2000ft., Dept. Sonsonate, El Salvador

- ✓2498 ♂ *Sayornis nigricans* ^{May 5} heavily parasitized with *Sarcocystis*? testes 7mm.
- ✓2499 ♀ " " old brood patch? - already laid ^{this season?}
- ✓2500 ♀ *Nuttallornis borealis* ad-bred previous season? ovary small
- ✓2501 ♂ *Ceophobus lineatus* testes very small
- ✓2502 ♂ *Myiodynastes lateriventris* " " large
- ✓2503 ♂ *Aimophila rufescens* " 6mm.
- May 6
- ✓2504 ♂ *Empidonax traillii* testes 2mm.
- ✓2505 ♀ *Tyranniscus idissimus* ova 1.4mm.
- ✓2506 ♂ *Tyrannus tyrannus* very fat testes 3.5mm.
- ✓2507 ♀ *Oncostoma cinereigulare* ovum 5mm.
- ✓2508 ♂ *Intolmomyias sulphurescens* testes 8mm.
- ✓2509 ♂ " " " 9 "
- ✓2510 ♀ *Elania viridicata* ova 1mm.
- ✓2511 ♀ *Tanagra affinis* mottled in stom. ovary minute
- ✓2512 ♀ *Dendroica magnolia* " "
- ✓2513 ♀ *Icterus sclateri* oviduct large, ova 2-4mm.
- ✓2514 ♂ *Lepidocolaptes souleyetii* testes 13mm. cloacal tubules present
- ✓2515 ♀ " " ovary very small
- ✓2516 ♂ *Pletyparus aglaiae* cloacal tubules pres. testes 12mm.
- ✓2517 ♀ " " definite heavy brood patch
- ✓2518 ♂ *Aimophila ruficauda* ^{white Sarcocystis?} heavily parasitized testes 8mm.
- ✓2519 ♀ *Tapera naevia* ovum 3mm.
- ✓2520 ♂ *Thryothorus modestus* testes 4mm.

May 7

- ✓2521 ♂ *Myiochanes virens* fat testes small
- ✓2522 ♀ *Anthoscenus constantii* ovary small
- ✓2523 ♀ " " " "

Catalog

Chilala, 2000ft., Dept. Sonsonate, El Salvador

May 7

- ✓ 2524 ♂ *Saucerottia devillei* testes large
 ✓ 2525 ♂ *Melospiza bicincta* egg. " "
 ✓ 2526 ♀ *Tityra semifasciata* definite rubbery brood patch

May 8

skull roof thin - "windows"

insects

- ✓ 2527 ♀ im *Streptoprocne zonaris albicincta* ovary & oviduct preserved - 2 old follicles, oviduct large as if just finished laying.

Wing 194

- ✓ 2528 ♂ ad *Buteogallus a. anthracinus* testes 10 mm. wing 358
 skeleton no chitinous bases

- ✓ 2529 ♂ im *Tanager lutea* crown black, sides head; back green testes 5.5 mm.
 ✓ 2530 ♀ *Euthlypis lachrymosa* rather ovary small

May 9

- ✓ 2531 ♂ [ad] *Thraupis abbas* (black wings) egg. testes large
 skeleton ad plumage
 ✓ 2532 ♂ im plumage *Chiroxiphia linearis* " 4 mm.
 skeleton
 ✓ 2533 ♂ ad *Cyanerpes cyaneus* egg. " large
 skeleton
 ✓ 2534 ♂ ad *Thamnophilus dolatus* l. testis 4.5 mm.
 skeleton
 ✓ 2535 ♀ ad plumage (grey) *Saltator grandis* brood patch

- ✓ 2536 ♂ *Elania viridicincta*
 ✓ 2537 ♀ *Guiraca caerulea* oviduct visible ovary small
 ✓ 2538 ♀ *Mniotilta virens* " "
 ✓ 2539 ♂ *Oporornis tolmiei* very fat testes small
 ✓ 2540 ♂ *Piranga leucophaea* egg. " very large
 ✓ 2541 ♂ im *Chiroxiphia linearis* " 3 mm.

- ~~2542 ♀ *Aimophila rufescens* brood patch~~
~~2543 ♀ *Leptopile verreauxi* ova 2.3 mm~~

May 10

windows in skull

- ✓ 2542 ♂ *Streptoprocne z. albicincta* minsects testis 6 mm
 skeleton
 ✓ 2543 ♂ *Mniotilta cinerea* " 7 mm
 ✓ 2544 ♀ " " brood patch

Marshall, 1942

43.

Catalog

Chilata, 2000 ft., Dept. Santa Ana, El Salvador

May 10

- ✓ 2545 ♀ *Empidonax flaviventris* ovary small
✓ 2546 ♂ *Chirogrypha linearis* testes 6 mm.
✓ 2547 ♀ *Melospiza cinerea* laying
✓ 2548 ♀ *Junco caerulea* ovary small
✓ 2549 ♀ *Platysaris aglaiae* brood patch
✓ 2550 ♀ *Aratinga canicularis* ovary small

May 11

- ✓ 2551 ♂ *Junco caerulea* c.g.p. testes very large
✓ 2552 ♀ *Stelgidopteryx ruficollis* about to lay
✓ 2553 ♂ *Aimophila rufescens* - testes large

May 12

- alcoholic ✓ 2554 ♂ ? *Mionectes olivaceus* (building) nesting
alcoholic ✓ 2555 ♀ *Mniotiltus luteiventris* brood patch
skeleton ✓ 2556 ♂ " " c.g.p. testes very large
skeleton + flat skin ✓ 2557 ♂ *Thryothorus pleurostictus* building nest, testes very large
nesting - wing 65, tail 51, exposed culmen 16½, tarsus 21, intergrade? c.g.p.

- ✓ 2558 ♂ *Stelgidopteryx ruficollis* c.g.p. testes very large
alcoholic ✓ 2559 ♂ *Cyanerpes cyaneus* about to lay
✓ 2560 ♀ *Buteo plagiatus* several ligands in stom. ova small
skel. ✓ 2561 ♂ *Junco caerulea* plumage glossy black, wide throat collar, forehead & throat brown, tests 7 mm.
✓ 2562 ♂ *Colinus leucopogon* - tests 8 mm.
✓ 2563 ♀ " " ova 2.5 mm.
skeleton ✓ 2564 ♀ *Aimophila rufescens* early brood patch

May 13

- ✓ 2565 ♂ *Tanagra lutea* c.g.p. testes very large
✓ 2566 ♂ in *Thryothorus pleurostictus* testes 5 mm.
✓ 2567 ♂ " " c.g.p. " " "

Marshall, 1942

44.

Catalog

Chilata, 2000ft., Dept. Sonsonete, El Salvador

May 13

skeleton

✓ 2568 ♂ *Herpetotheres cashinnans* testes 6mm.

May 18

alcoholic

2569

alcoholic

2570

Freag

"

El Salvador

General Account

Several pages of observations
of Laysans from the ship.

New Orleans to Belize with
specimens of the birds
were lost.

Marshall, 1941 ^{Lost Notes on}
^{Frigate & Jaegers from}
General Account ^{Boat trip.}

Belize, British Honduras, C.A.

Dec. 19

Santa Marta anchored here in am
many Frigate birds around boat -
deep red gular pouches. Saw only
black individuals (♂'s?). Also
many small gulls between
delawarensis & ~~b~~ canus in size.
No white windows in wing - just
white posterior margin all along.
Black from tip to wrist, rest of
mantle dark slaty grey.

Went ashore at 2 PM - mingled
with natives - very friendly, black,
speak Spanish - British citizens.

Walked along road into swamps
at W side town. Many tall acacia
groves, some palms, but mostly
20 ft high jungle of vines & bushes
in shallow standing water.

Little crabs with a single large
bright orange pincer in holes in
mud around bases of trees.

Saw: nighthawks in dense brush,
a dove, grackles & a bird with
short deep bill, sm. Myiarchus,
several Kingbirds, Derby Flycatcher
with high shrill call, Hooded &
Redstart warblers. Yellow Warblers

Marshall, 1941

2.

General Account

Dec. 19. Belize, B. Honduras
and yellowthroats abundant.

In an open marsh was colony
of Agelaius phoeniceus. Several

Hawks, black vultures, etc.
Heard drumming of woodpeckers.

Many mockingbirds singing
(beautiful sleek grey birds,
no white on wing, graduated
tail - Mimus gilvus). Songs
resembling meadowlarks also
heard. 1 blueish green

snake seen. Several catbirds.

Went on another road to
the beach where a lagoon with
kingfishers & open area with
short grass. Here were some
kingbirds resembling W. kingbird
but I saw no white in tail.
In some taller bunches grass
were some finches feeding on
the seeds & feeding & size to

Spinus, called a kinnit. Were
olive-brown in color. Pelicans
diving offshore.

Marshall, 1941

3.

General Account

Zacapa, Guatemala

Dec. 21

Came on train from Puerto Barrios thru deep humid lower tropical jungles. Towards Zacapa, after passing thru some hills, the jungle thinned & gave way to arid lower tropical +st grassland, a few oaks, then into cactus & small deciduous growth.

Walked around outskirts of Zacapa. In deciduous growth along a stream bed saw many large dull-orange robins or *Ixoreus* in habits (very shy) giving only a thin squeak when they flew & *Turdus migratorius*. Also ~~seen~~ about 10 black birds with deep short bill. They have a gr. variety of calls. Many yellow Warblers heard. Saw a flock of *Oreodes*, several kinds - several resembling Orchard Oriole in color but larger. Flock of *Zonotrichia capensis*? in cactus hedge - also a *Mimus gilvus* which I collected with stingshot. Both Turkey & Black Vultures seen, latter, tamer, more numerous, & around buildings

Marshall, 1941

4.

General Account

Train from Zacapa to San Salvador

Dec. 22

Several floral communities seen along route. Directly south of Zacapa, climbed to about 2-3000? ft to lower edge of the pine forest - only saw pure stands a rather open forest of short trees - on steep slopes facing northeast. After the grade, the flat country leading down & S. to L. Guiza had a very dry formation of Thorny deciduous trees (mostly naked) and large cacti. about 20' tall growth & much brush. Then at L. Guiza there were marshes, open meadows around lake, open grassy areas (cleared?) but mostly a beautiful forest of deciduous trees - rather tall & open beneath. Then everything settled on into San Salvador - most dreary.

Dec. 23

Hotel Nuevo Mundo - very good. Had open ceiling above end of lobby above a fountain with vines. Yellow Warbler came in & foraged into vines. In afternoon drove to San Miguel San Miguel. All settled. But good virgin open brush land in area around crossing of Rio Lempa - looks like very interesting

Marshall, 1741

5.

General Acct.

Dec. 23 El Salvador.

country. Saw Swanguist at San Miguel — he set us up to eats & whisky & showed me the new fossil which is a tooth imbedded in bone. (Mastodon - stirt) met crowd later at night at Goterra.

Dec 24. Early am in Goterra a park next to the church was swarming with birds: Giand's flycatcher &

W? Kingbird in flocks foraging (hovering) about ~~to~~ fruit of palms or blossoms — which they were eating.

Many grackles & Anis. Davis & I ~~walked~~ many martins about church & I shot some little swallows also. Davis & I went to a stream valley on outskirts of town where ~~some~~ areas of trees & also open low brush.

Saw Belted Kingfisher, Orioles, a motmot, Parakeets (probably tame) Cactus wrens displaying & fighting. Heard Lincoln Sparrows in brush. On way to Delicias saw sparrows in hedge-rows (*Aimophila* ~~ruficauda~~ *ruficauda*?) & magpie jays in trees & Cott Anis in trees. Coll a *Myiochanes* from bush among trees in stream valley.

Marshall, 1941

6.

General Account

mt. Cacaguatique, Dept. Morazan, El Salvador

Dec. 25 Camp at hacienda of coffee finca at 4600 ft on n. slope. Apparently from this elev. to summit was cloud forest, now planted to coffee bushes - ground clear beneath and tall, spreading shade trees above. Easy to hunt in plantation, but not nat. condit. We came up ^{gradual} east slope yesterday from arid deciduous forest, grassland, then brush, then half way up into oaks and pines. 100 yd. n. camp is cleared slope bordered by virgin oak forest, ^{grown to} grass and brush. Several dead oaks - in which were many acorn-storing woodpeckers, kingbirds. Wrens in brush - 1 sp. singing. Inca doves on trail. Most birds seen along edge coffee & humid upper virgin forest. Clouds of warblers passing thru trees, hummers, large scissus seen, russet-backed thrushes, kingbirds, cal. woodpeckers. Hunted most of time in pure coffee plantation. In ^{trees around} little hollow with water was huge group birds: flock *Cissalopha* & orioles, pileated & golden-f. woodpeckers, thrushes warblers, etc. etc. P.M. 3 kinds owls heard in finca ^{low: 1 wh. who, but 2 others. Trill high calls.}

Dec. 26 Collected in coffee finca - up-hill from camp. Same sit. as yesterday - no birds for long way. Then great mixed flocks.

Marshall, 1941

7.

General Account

mt. Cacaguatigue, Dept. Morazan, El Salvador

Dec. 27

Went to top of east peak directly
s camp & hunted in virgin groves
of oaks. Few birds seen - rather
late in day. 1 flock jays, several
flocks warblers & tanagers. Green-
woodpecker & woodhewer. Also
got in a large flock on saddle
east of this peak. Myiarchus, woodpeckers,
tanagers, warblers, thrushes, etc. These
oak groves are composed of a few
very large old trees which are tall,
then many spindly young trees
making a rather dense stand, but
there is almost no undergrowth -
easy to walk around. ~~Denser~~ & larger
trees on N slopes; denser stands
of smaller trees elsewhere.

Dec. 28

Walked east on main road to virgin
oak association on outskirts of finca
on west exposure where dense forest of
oak. Saw russet-backed & gray thrushes
& a pair of sm. woodhewers. Around
on the sunny east-facing slope was
oak & pine forest where Co. vermillion
trogon was singing (coll.) also a Cotinga.
In a pure pine grove was a flock of
warblers, one which I tried to collect,
was singing with song ~ Audubon's W.



Marshall, 1941

8.

General Account

mnt. Cacaguatique, Dept. Morazan, El Salvador

Dec 28 P.M. - night - hunted with Stitt.

At dusk got 2 Otus trichopsis in same spot in finca, later Ciccaba virgata began to call - couldn't get to them. Moonlit night.

Dec 29 Hunted in finca.

P.M. Hunted Ciccaba at top of ridge.

Dec 30 am. Worked in oaks to the east - many tanagers, warblers, & Ceophloeus & Setophaga pitta, r.b. thrushes, etc. Worked down the pine ridge (running n-e) which is very dry & grass growing under the pines. Farther down, there is dense brush of composites under the pines & out on a steep, hot, east-facing knoll - much grass & bushes also - here ~~was~~ was a group of Spinus psaltria. Warblers in pines same as in oaks but some different sp.: One singing, & a hermit, w. call.

Dec 31 am. hunted down ridge to north - here flat wide for about $\frac{1}{4}$ mi & huge oaks thinned out preparatory to planting coffee - but low brush now. Several dead snags. Makes an entirely different habitat - great trees

Marshall, 1942

9.

General acct.

Dec. 31 mt. Cuaguatique, Dept. Morazan, El Salvador
in an open parklike grove - Birds
abundant here which not uniformly
dist. in virgin dense oaks:
Zialia sicilis, *Balanosphyra*. Many
Tanagers. Rather late in day,
∴ not many birds calling.

Jan 1 am. Hunted on a ridge of the
coffee finca where newly planted
+ many native trees left for shade -
some large oaks, about 6 pines
& some brush left on ground. An
ideal "broken up" habitat with
plenty of edges. Here a gt. mass
of birds: jays, orioles, woodhewers,
flycatchers, Tanagers, Tityras,
woodpeckers, hummers, thrushes.

Marshall, 1942

10.

12/2/42

El Salvador

Mt. Cacaguatigue, Dept. Morazan

January 2
~~January~~

Hunted in virgin stands of oak along eastern ridge of most eastern pk. of Mt. Cacaguatigue. Coffee plantation extends on north-facing slope almost to top of this ridge, & birds are commonest along the edge of the oak forest. This forest of medium sized trees because on steep ground & south exposure. Collected Trogon

1659 ♂

violaceus in oaks at edge of finca. It was sitting quietly erect, tail str. down & occasionally flew out after insects or to another perch. Flight very rapid. The 3 small common woodpeckers were seen often, but in slightly different habitats. Piculus rubiginosus in denser oaks, Balanosphyra forficivora in larger open oaks often with dead trees around - (also often seen working on same limb with Piculus & would chase Piculus), and Centurus aurifrons along edge of finca. In densest oaks on north of crest, was pr.? Lepidocolaptes affinis foraging, also fighting (?) & giving high, very penetrating squeal & creeps but very loud. Collected

Marshall, 1942

1 1/2 / 2 / 42

11.

El Salvador.

Jan. 2 ⁱⁿ mt. Cacaguatigue, Dept. Morazan.

1660 ♀ ^{off} as it worked up trunk of oak. Flashed wings & creper. Worked in woods on ~~east~~^{west} face of peak & heard louder woodhewer squeals - perhaps barred woodhewer because in same place as collected one Dec. 27. ~~Bl~~ Woodwarblers abundant everywhere. On saddle on ~~a~~ west side off this eastern pk., coll. a flycatcher from ^{low} planted coffee

1661 ♂ finca shade tree. Worked & Empidonax.

At top of next pk. to west, which is very high, coll. a Columba fasciata

1662 ♂ which was sitting with its mate on a dead tree - in the finca which extends clear to top of this peak. Clouds were continually drifting past the peak & here saw swifts Streptoprogne in groups up to several hundred indiv. A few hawking about ~~about~~^{at} all time - would race down slope making loud whirr. Flock would appear from ^{from} n-w about every 20 min & fly ^{directly} ~~low~~^{to} top of peak, then they would all spiral up, then forage high, & break up into groups or ^{all} move out of sight. Shot once, but didn't get any. Often give high chattering noises. Behavior & black swifts. Back at the hacienda,

Marshall, 1942

12.

1st/2/42

Jan 2 ^{El Salvador}
Int. Cacagnatique, Dept Morazan

all forenoon, Streptoprocne were milling around high in the air - flock scattered & broken up most of time, but sometimes several hundred birds in ^{view} air at once.

P.M. - just at dusk - shot one of 3 tanagers from ^{top} dead tree in hacienda yard - was Thraupis abbas. Birds looked like finches, moving body up & down, giving light "chips".

16640 After dark heard Glaucidium brasilianum calling from high, dense foliage of finca shade tree near camp. Kept calling while I tried for 1/2 hr. to shine it; went back after 3/4 hr. when called again from same tree - this time I got it to follow me & it perched in lower tree where coll. It had carried a warbler (Vermivora peregrina?) to this tree & still clutched the body when fell. Head & wings in stomach. Call a continual whistled quirt, quirt with slight upward inflection. 15 calls/10 seconds steadily for several min. at a time. Then would start again when I would whistle. Quality at 1st rough, then would become clear whistle.

Jan 3 A.M. Cloudy, calm - At daybreak, walked down

Marshall, 1942

1/3/42

13.

Jan 3 ^{El Salvador}
mt. Cacaguatigue, Dept Morazan

ridge to north. Flock of jays, ocoles,
Tityras along ravine at edge finca.

In cleared area being prepared for
coffee, many dead trees still standing.

1665 ♀ coll. Mitellornis from top dead stub.
I had heard some ^{mitellornis} "pill-pill" note
but wasn't certain from this bird.

1672 ♂ coll. Buteo jamaicensis from another
dead tree. Along the ridge, forest
1/2 logged off leaving open grove of large
oaks, Balanosphyra abundant, also
heard Sialia same place as before.

Deep canyon on east side of this ridge,
down which I went, thru virgin
oak forest on steep slope covered
beneath with ferns & sm. bamboo.

In this grove of oaks collected
three sp. woodhewers all from vertical oak trunks.

1666 ♀ Lepidocolaptes affinis flicked wings.

1667 ♂ Xiphorhynchus flavigaster

1668 ♀ Xiphocolaptes promeropelychus.

Down an east-facing side ravine,
very steep & grown to lush humid
upper tropical growth of giant ferns,
bamboo, oaks was a huge flock
of woodpeckers, ocoles, jays, at least
1 woodhewer, warblers, robins (?), etc.
Followed flock to bottom of canyon where

Marshall, 1942

1/3/42 14.

El Salvador

Jan 3 Int. Cacaguatigue, Dept. Morazan

finca begins & continues up east side canyon. Collect ♂ of pair of 1669 ♂ Ceophloeus lineatus working together in finca shade tree. 3 or 4 others

1670 ♀ seen in this flock. ♀ Ceophloeus taken at top of next ridge in very dry scrubby oak situation - working on low

1671 ♂ dead oak. Trogon violaceus taken in dense growth at edge of finca.

1673 ♂ ^{Taken} ~~Taken~~ Falco albicollis at least at 5000 ft by N. Geer near top of 2nd peak from east. Was pursuing a warbler thru the coffee & finca shade trees. Very rapid flight - was "much better flier than warbler & could follow it very well" - warbler would dive into low dense coffee bushes, hawk after it, then hawk would sit awhile on tree waiting for warbler to go again (Falcon albicollis).

Two Corvus corax seen perched in dead tree in clearing near hacienda.

Jan 4 → tanager

1674 ♂ shade tree in a.m. taken from finca. Saw red-tail hawk chased by sparrow hawk in clearing.

1675 ♂ Columba flavirostris taken by Geer in finca

1676 ♀ " fasciata " " " from several perched in foliage of lg. pine.

P.M. night-hunted along road thru finca to top of ridge to s.w. Cloudy, & got into

Marshall, 1942

11/4/42

15.

El Salvador

- Jan 4 ^{mt.} ~~in~~ Cacaguatigue, Dept. Morazan
fog higher. No moon until reached
top of ridge. Coll. Otus trichopsis
1677♂ on stub 6' from grd. where called
in ans. to my whistled imitation hoots
at same spot where 1620 & 1621 Taken.
Heard one at ^{spring} where 1622 taken - whistled
& saw him fly into bush at side
1678♂ road. collected Otus trichopsis. I gave
Ciccaba virgata hoots & heard ♀
Otus trichopsis & tried to follow it
up-stream but it soon quieted.
At top ridge, heard 1 Ciccaba
virgata he he whoo, whoo, huh, I
1679♂ Glauucidium brasilianum (collected from
finca shade tree after I followed it
a long way & finally got it to
come to me), 2 Otus trichopsis
♂ of which I saw twice & shot at.
It called in 3-10 sec intervals
from within the coffee bushes - I
saw it perch on the lower
branches or stems - once 6" from
grd. ♀ stayed higher in shade trees
higher calls, & couldn't approach.
Also heard several Potos, one in
coffee, 3 or 4 in trees & brush on
steep s. face of ridge. Eyeshine bright
yellow ^{cat} shot one in dense trees -
both eyes seen at once.

Marshall, 1942

16.

El Salvador

Jan. 4 Mt. Cacaguatigue, Dept. Morazan

prep. by Hildebrand. One shined as
sat high in dead tree. Heard much
sawling, grunting & crashing around
in trees. I was still trying to
call up the pygmy owl & when I 1st
gave its call, the one Potos gave
a very similar-sounding series of
grunts. Two more ♀ Otus
trichopsis heard in finca on way
back to camp.

Jan. 5 am. clear, ^{north} calm. not warm - Collected
16808? Scardafella inca at edge ^{grassy} clearing
near hacienda - was perched on fence.
At a little knoll, virgin oak
& brush on one side (a few very
large oaks) and ~~new coffee~~ new coffee
cleared for finca on the other side,
was a large mixed flock of birds -
from which I took 4 Saltator
1682 atriceps - 2 more 1 more heard.
1683
1684
1685 They were in shade trees on finca side,
then in oaks on virgin side of
knoll - calling continually with
sharp ^{snapping} sneezing note like the single
chick of mockingbird. Would give
several single calls, then a se.
occasionally a series of same, ^{incr.} gaining
in tempo. Didn't seem to be feeding.



Marshall, 1942

17.

El Salvador

Jan 5 ^{am} mt. Cacaguatigue, Dept. Morazan

just would sit & call from one tree, then fly to another & call some more. One, however, rummaged thru some lower brush & may have been feeding. Rest sat in trees above height of brush. Not a compact flock - just all within calling distance. All specimens had berries & pits in stom.

Buds? & flowers? also.

1681 ♂ ^{somebody} Lepidocolaptes affinis taken in this mixed flock as worked out along a small, horizontal oak branch.

Saw a sm. green snake which ran under a log - many Balanosphyra, orioles, robins (not in this flock), a resident Redstart, warblers, 2 inca doves; many Columba flavirostris, & a group of about 10 Tyrannus verticalis in tops dead trees. The Tyrannus were moving along as a flock & I saw about 6 take off & fly high & uphill at same time.

Jan. 6. ^{am} Collected in deep, cool canyon running north, on east ^{side} edge of ridge where we are camped. Steep sides, shaded below in forenoon; very wet



Marshall, 1942

18.

quail audit

Jan 6

mt. Cacaguatigue, Dept. Morazan, El Salvador
& cold - water all over grass & plants. ∴ a marked differentiation or zonation of climate right here - in spite of seeming uniformity suggested by Van R. Originally, this canyon must have been humid upper tropical in the bottom where cold, shady, & wet - with ferns, vines, & cloud forest trees; the slopes would have been covered with large oaks on ~~west~~ east side, smaller oaks & brush on ~~we~~ east; ridges with pines, or mixed pine & oak over grass. Large oaks with ferns beneath still occur on west slope farther down canyon, & a few pines still on ridges (on east side of ridges). Now there is finca on the west slope, the east slope is cleared $\frac{1}{2}$ -way up & grown to weeds & grass - some brush or planted to corn. Small oaks & brush on upper half. Bananas & dense grass & vines & weeds in bottom. ~~But~~ Large mixed flock of birds in bottom in a few large trees (jays, orioles,

Marshall, 1942

19.

Jan 6 ^{General Account}
mt. Cacaguatigre, Dept. Morazan, El Salvador
robins, woodhewers, saltators)
which proceeded up the east
slope to the oaks, ⁶⁰700 yd. from
bottom. Jays & orioles flew directly
to oaks, robins stayed behind,
to woodhewers stopped on dead
sapling $\frac{1}{2}$ -way up (where coll.),
saltators (*S. atriceps*) worked up
thru weeds & brush.

In ^{dense} weeds of lower part of
cornfield flushed a sparrow
(*Aimophila*?) several times, also
a roadrunner.

Jan 6 p.m. Hunted owls after dark clear
across finca to west side, up
edge of oak forest to summit &
back. No moon until return
trip - & for ~~for~~ about $\frac{1}{2}$ hr.
after moon came up *Cricaba*
virgata & calling all over -
4 or 5 birds heard at once; also
some whipoorwills called. *Otus*
trichopsis common as usual - always
in coffee.

Jan 7 p.m. at dusk, hunted ~~so~~ east thru
finca - many birds calling, which
not heard during day. Robins &
woodhewers? calling in oaks. Coll. a

175

176

Marshall, 1942

20.

General Account

Jan 7. ^{pm.} ~~mt.~~ Cacaguatque, Dept. Morazan, El Salvador

Caprimulgus vociferus from side of road in ~~log~~ cleared area. After dark, called for owls in grove of pure pine - heard none - heard about 5 Ciccaba virgata in oak forests & coll. one. No ~~Am.~~ Otus heard in oaks. No moon.

Jan 8

am. clear weather - Hunted across finca to west. Ran into 2 large mixed flocks both on sunny ridges - jays, woodhewers, orioles, flycatchers, tanagers, robins, & small woodpeckers (not Geophoenus nor Phaeocephalus). Also 2 groups of G. toucans of about 5 or 6 each. No birds heard in large untouched tract of oaks on a north-facing slope, but flock of jays & woodpeckers^{*Robins} at edge giving alarm notes at presence of a hawk-looking like a falcon - brown wings with black margin - just glimpsed it as flew thru dense woods. Balanophya, Centurus & Myiochanes pectinatus on tall snags left from clearing timber for coffee. In a saddle near the virgin oak & cleared area was much brush & tall grass -

Marshall, 1942 General Account

21.

Jan 8
here

Int. Cacaguatigue, Dept. Morazan, El Salvador.

over damp ground where *Thryothorus modestus* see coll.
A sparrow (*Atlapetes*?) seen on trail
at edge brush & retreated into low
vines. The oak timber on the
ridge above this was rather short,
& dense underbrush of vines &
plants. Large mixed flock along
edge of this and newly-planted
finca (still much vine & brush
growth between coffee bushes
here). ^{p.m.:} heard 3 *Caprimulgus vociferus* in semi-logged
oak & 1 *Circus virgatus* in 1 mi. pure oaks.

Jan 9
from

am. Walked about 2 mi down the
ridge running to north & got
to the end of the virgin oak
forest - here, at 3500 ft. the
mountain drops off abruptly as
a series of cliffs & deep canyons.
On the last few slopes above
the cliffs, the oaks peter out or
are cleared & there is brush
& corn fields. On a rocky
knoll covered with brush saw
2 *Geococcyx* & some Toluie warblers
in the brush. Also, in this dry
& rather sparsely-leaved brush were
2 *Cyclarhis flaviventris*. Flock of
Tyrannus verticalis, flock of *Thalassina*
calycineta thalassina over this knoll.

Marshall, 1942

22.

General Account

Jan 9 ¹⁹⁴² ~~1941~~ ^{at} Cacagnatique, Dept Morazan, El Salvador

Also went to flatter country below a farm house where a swampy grass field, grassy open space & stream-bed with small trees along it - only birds seen in these 3 situations were some Cissilopha & Pipulus rubiginosus calling & Passerina cyanea in trees along stream bed.

Also 2 Mex. black hawks in air. Sparrows in ⁱⁿ ~~in~~ hedge near farm house - also orioles.

Only bird heard or seen in 1 1/2 mi Virgin oak stands along north-running ridge were Setophaga picta at rather regular intervals, 1 dove - deep reddish-brown above with narrow white edge on tail which I wounded. Not many birds in pure oak, but not noticeable at this time of day even if there - not calling.

Jan 10 ¹⁹⁴² ~~1941~~ At dawn, ^{no clouds of bird calls - just not-mot-hoots.} hunted on north ridge ^{no singing.} of finca where many native trees left standing although coffee beneath. Here a large mixed flock tanagers, jays, & orioles, sm. woodpeckers, flycatchers & warblers. Tried to get them to come around stuffed owl - but although they gave alarm notes, they didn't come around. After breakfast, hunted in pure virgin oak.



Marshall, 1942

23.

General Account

Jan 10

mt. Cacagratique, Dept. Morazan, El Salvador
of moderate size on both side of
an east-facing ridge - & woodhewers
in great abundance - 3 kinds: basileus,
Dendrocolaptes certhia, Xipholynchus
flavigaster, and Lepidocolaptes affinis.
Flock of 'hummers' & warblers excited
about something on grad. - coll.
a Sciuurus.

In afternoon, hiked along series
to peaks to west about 3 mi.
Habitats seen beside finca: heavy
fern brush & vine tangles along summit
where many warblers & some
Atlapetes; virgin grove oaks &
large tract ferns & vines seen across
canyon on a n-e facing slope.
In oaks on west side mt. at
dusk, night hunted - coll. pr.
Otus trichopsis & heard 2
Caprimulgus vociferus at edge oaks
& finca. On way back to camp
heard about 5 Cicaba & 4 Otus
trichopsis in 2 mi. Finca country.

Jan 11

Hunted around cornfield on
east side large steep canyon, n
camp. Many birds along boundary
between cornfield & virgin oaks:
Jays, robins & saltators & sm.

Marshall, 1942

24.

General Acit

Jan 11. Mt. Cacagratigue, Dept. Morazan, El Salvador
woodpeckers. In brush & low trees
(where evidently once cleared) were
^{2 kinds?} wrens, orioles, hummers, saltators,
& several singing Cyclarhis
flaviventris. In cornfield -
2 Lincoln sparrows (many weeds
& vines).

January 12 Early am. Hunted on south ridge of
one of the high peaks of Mt. Cacagratigue
in virgin dense oak woods on very
steep slope where Hildebrand had seen
tree quail? Only birds seen were
a Tityra and some warblers and
a Xiphocolaptes. Near the top of the
ridge is the boundary between finca
& oaks where some large dead
trees with Balanosphyra common (about
8) also in adjacent finca & in company
with Piculus & Centurus. Near the
big dead tree was lg. flock warblers,
tanagers, r-b. Thrushes & Blue-headed
vireo. On top of this peak was
brush with tolmie warblers &
wrens. The next peak & ridge to
the west is higher with more humid
type of brushy cover: vines & ferns
& high bushes where saw one Atlapetes
& heard several more. Went down

Marshall, 1942

25.

General Acct

Jan. 12

mt. Cacaguatigue, Dept. Morazan, El Salvador
trail into canyon on east-facing slope
thru this humid brush - many wrens
(Thryothorus), r-b. thrushes, Turdus grayi,
warblers. On way back thru
finca ran into mixed flock woodhewers,
toucans, woodpeckers, tanagers, etc.

Jan. 14

am. Early: got a flock of warblers,
orioles ^{tanagers} & saltators around the stuffed
owl. Hunted thru finca after
breakfast - got a flock of Cissilopha around
owl, then, in attempting to attract
birds from a flock by firing Otus.
trichopsis hoots, called up a pair &
coll. the low-pitched ♂. In the high
dense brush & vine growth near the
top of the ridge far to west where
high & more humid got flock of
birds around stuffed owl (in bush).
Heard one bird - sounded like chat
singing, a vireo, many Toluie
& Pileolated Warblers, Thryothorus
modestus & Hylocharis leucotis &
a Flycatcher (# 1754). Birds didn't
come out into view very well.
Heard whining calls of Atlapetes?
in brush. Later got flock Cissilopha
around owl.

Jan. 15

Hunted about 3000 ft down the south



Marshall, 1942

26.

General Acct

Jan. 15 mt. Cacaguatigue, Dept. Morazan, El Salvador
slope of mt. ". Oak forest down about
1000 ft. Coll. Buarremon in brush
under oak at lower edge of oak
growth - then it gives way to
a ~~type~~ of high dense brush
on the steep slope which goes
in a blanket down to the farms
& cornfields 1000 ft or more below.
This brush is not a chaparral. but
is composed of straight shoots mostly
& mostly of flowering plants now in
bloom - many composites & tubular
flowers - Hummers in immense
numbers - mostly Archilochus colubris.
Many Tolmie Warblers & Paleolated Warblers -
heard a chat?, ~~also~~ Leptophila,
~~also~~ a pigeon, many s-b. thrushes.
Where the ridge levels off below
are cornfields - where I got Aimophila
(also seen in cactus hedges around
houses). Violet-green Swallows
common at this level. Tucker
(botanist) says this brush is not
natural - these slopes were probably
cleared for cornfields once ^{still}. No swifts! (along
summit).

Jan. 16 Collected Termites for D. Kirby this am. around
edge of finca in old stumps - Original

Marshall, 1942

27.

General Acct.

Jan 16

mt. Cacaguahque, Dept. Morazan, El Salvador

trees girdled & allowed to die & fall & rot, then coffee & shade trees planted. Heard a quateacher in the brush - saw raven, black vultures & 2 black hawks with pure white tail high up. In afternoon went down into ^{deep} canyon to north windy. Here a cornfield on east (with weeds & vines grown up) & chaparral on west side - I wanted to see if this chaparral was like that growing on the hot south slope of the mt. - was not - composed mostly of vines & ferns - a more humid formation. On edge of cornfield a former clearing, now grass & brush of bushes & small trees. In bottom, along stream, much deep grass, vines, ferns & groves of bananas which are extremely cold & damp. Here shot a saber-wing. All this once ^{humid} oak? timber - succession much different from that on hot south slope. Late afternoon looked for swifts along summit - saw none.

Marshall, 1942

28.

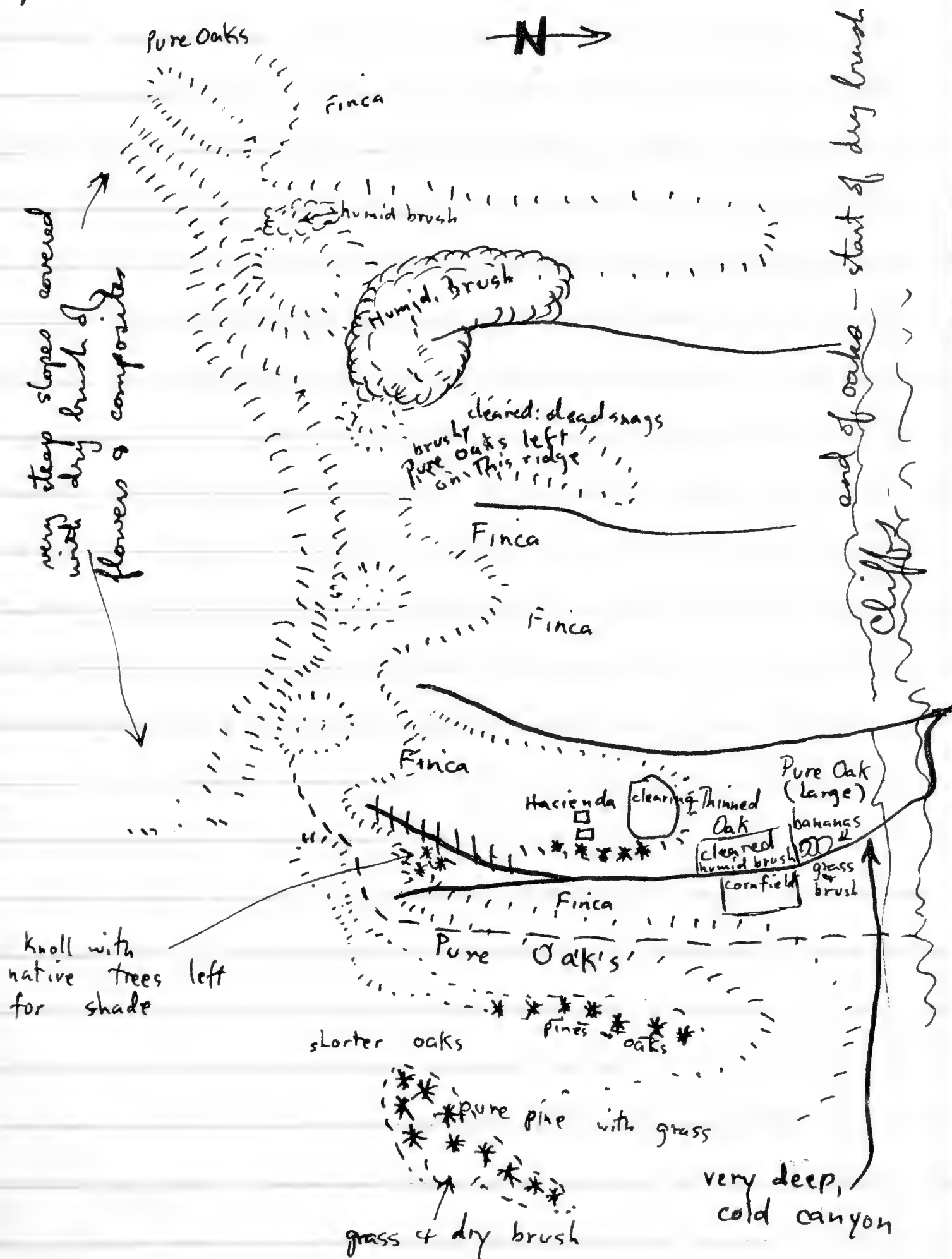
General Account

mt. Cacaguatigue, Dept. Morazan, El Salvador

January 17

Summary

Camp at this locality from Dec. 24, 1941 evening to morning of Jan. 18, 1942. Stayed at Hacienda of Gen. Calderon on his coffee finca.



Marshall, 1942

29.

General Acct

Mt. Cacaguatigue, Dept. Morezan, El Salvador
Summary

Mt. Cacaguatigue is a series of 6 peaks 5000 to 5300 ft. high in a semicircle with a steep south slope (about 60° in places) and more gradual north slope. Appears to be the north rim of old volcano which has had the south "eroded away. 4 or 5 small streams run north and parallel in the canyons. There is no particular riparian growth. The entire north slope including ridges & canyons is planted to coffee which is a distinctive type of man-made habitat consisting of bare ground covered with leaf mulch, coffee bushes 8-12' high planted about 8' apart, and planted ~~dead~~ broad-leaved trees 20 or 30 ft. apart which have ^{flat} broad, high crowns making the necessary shade for the coffee. Dense virgin oak forests of large trees with little undergrowth occur on some of the north slopes and canyon walls as shown on map. 2 sp. of oaks. Smaller, denser forest of oaks with brush bushes beneath occurs to the east, below the finca down to about 3500' to the north, and along the south slope near the summit - down about 300-500 ft. Tucker says these last on the south

Marshall, 1942

30.

General Acc't

Mnt. Cacaguatiguis, Dept. Morazan, El Salvador

Summary

slope are different species - characteristic of arid lower tropical - but he may be referring to other trees in the canyon, not the oaks. Apparently the whole north slope was once an oak forest. Nothing seen of what Van Rossum referred to as Humid Upper tropical except humid type of brush on the north summit of the highest ridge & in the 2 deepest canyons. Not much Pine forest left: a few large trees on east side of ridge of Hacienda; mixed with oaks on next ridge to east, pure stand with grass below on a knoll & ridge farther east - all in dry ridge conditions & only on east side of tops of ridges. Two kinds of brush: 1) the dry type consisting of composites & many other flowers, ^{sm.} bamboos, etc. not chaparral bushes - mostly just thickets of vertical stalks - not branched as much as chaparral. This occurs on south slope as a continuous blanket from near end of oaks 300' below summit down 2000' to farms & cornfields - on very steep ground. Is about 6-10' high, denser in ravines and

Marshall, 1942

31.

General Acct

mt. Cucagatigue, Dept. Morazan, El Salvador

Summary

is a striking light green color. Also occurs below 3500 ft on n. slope just above cliffs where mt. drops off abruptly - the brush here is on rocky knolls between farms. 2.) The 2nd type of brush is a humid type resembling willow thickets in Calif. : consists of tall bushes, dense spreading shrubs, ferns & tangles of vine. ^{some} Grass around edges. This occurs on north rim of summit of highest ridge & down into canyon then marked on map. A growth similar to this occurs on a steep cleared slope down hill from hacienda - but is more of ferns. This last not worked for birds so future remarks apply only to that up on summit. ~~Tucker says this humid~~ Another type of brush occurs in ^{flat} places where oak forest has been cleared or thinned : tall grass & bushes & some ferns - appears just an increased development of cover occurring naturally under oaks.

The most interesting habitat types occur in the deep canyon east & below the hacienda. A deep virgin oak forest is on

Marshall, 1942

32.

General Acct

Mt. Cacaguatigue, Dept. Morazan, El Salvador

Summary

the west side - large trees with low ferns below. In a ravine here, is a very humid habitat of giant ferns, bamboos, grasses, etc. In the bottom of the canyon, still on the cool west slope (facing east) are banana groves - very damp - and areas of tall grass. On the east slope is brushy growth & open areas of tall moist grass where has been cleared - also cornfield grown to weeds & vines. Above this regular oak forest or humid type of brush where cleared. This canyon is ^{deep} steep & very cold & wet. Doesn't dry off until near middle of day when sun gets in. Was once probably Humid Upper Tropical.

Plant Communities & Succession :
Tricker thinks that much of the growth outside of oak & pine is not native & that much of the ^{humid} brush habitat is just exaggeration of normal undergrowth of oak forest. However, the arid brush on S slope is on such steep ground that it's hard to believe is a successional stage on cleared land because would have been a job to clear it. However,

Marshall, 1942

33.

General Acct
mt. Cacaquaque, Dept Morazan, El Salvador

Summary

I did see some clearing of oaks on a very steep ridge - so will not call this arid brush natural.

The natural types are:

1. Large oaks on cool n-e facing slopes, ferns beneath
2. Denser, smaller oaks on ridges & E-facing hills with ~~much~~ undergrowth of spindly bushes.
3. Pine & grass on one eastern ridge. This is probably not climax - pines being encroached on by oaks - scattered among oaks except on this one ridge.
4. "Humid brush" - ferns & vines & dense bushes & short trees on nth. rim of highest ridge & down into canyon there (see map).
5. (Natural?) Arid brush on hot south-facing slope - composites, flowers, etc.

Successional types: To lesser degree in thinned oaks.

1st When oaks cleared - grass & bushes of normal forest floor accentuated.

2nd Dense brush, or grass, & vines etc.

3rd Small oaks & brush - seen farther down on east ridge of deep canyon & below hacienda.

Marshall, 1942

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General Acct
mt - Cacaguatigue, Dept Morazan, El Salvador
Summary

The succession on north canyon walls is definitely not the same as the arid brush on south slope - has dense grass, ferns, vines, bushes - resembles the "humid brush" more.

Weather: 1st 2 weeks: clouds formed or blew in from n-e ^{almost} every day; 2nd 2 wks clear most of time. slight rain only 1 night. Even temp. - comfortable, but always sweat when walk, i.e. rather high rel. humid.

Generally balmy & dry except in deep canyon described above; altho dew seen early in am. elsewhere.

Seasonal aspects of bird life: Only pigeons & doves & the last pr. Otus trichopsis (& perhaps hummers) showed gonads in breeding condition. A falling off of bird singing or display activities during May, 1st 2 weeks ^{all birds calling} pigeons & doves cooing in early mornings; woodpeckers drumming much. ^{Hypochaeris leucotis singing regularly} " " ^{orbs calling at night} (but was moon then). 2nd 2 weeks Hypochaeris not singing regularly; Phloeocastes not drumming, not much heard in early am. from pigeons & doves ^{& other birds}. Apparently then this is true winter & we are

Marshall, 1942

35.

General Acct
Mt. Cacaguatigue, Dept. Morazan, El Salvador

Summary

receding from the breeding season. Only
birds in song were Trogon violaceus, Thryothorus insculptus,
& Cyclanthus flaviventris (occasional) &
Icterus chrysater, & Hylocichla lunulata.
Most of birds not on fixed Territories
- moving around in large flocks.

Distribution of Birds: Very few on fixed
territories - mostly big flocks found especially
& with most species around edges between
finca & oak or oak & brush etc.
These flocks found in all habitats where
trees & also sometimes in high brush at
edge finca or oaks - seemed to wander
~~some~~ ^{some}, but flocks start out from same
places every day (one at the hacienda
early am & returning late in afternoon) &
others found in same general area each
day - others seemed to move from
any one side of canyon to other ... not
definite conclusion concerning how far they
move - certainly all the birds don't move
far with the flocks - the jays & orioles move
farthest.

Birds seen in these flocks - not in fixed
habitats:

Trogon violaceus (accidental in flocks)
Ceophloeus lineatus Antagonhypochus gracilis sometimes
almost always

Marshall, 1942

36.

General Acct

Mt. Cacaguatigue, Dept Morazan, El Salvador

Summary

<u>Centurus aurifrons</u>	always
<u>Picus rubiginosus</u>	always
<u>Xiphorhynchus flavigaster</u>	} often <u>Balanosphyra</u> ^{also} always some woodhewers
<u>Xiphocolaptes promeropirhynchus</u>	
<u>Lepidocolaptes affinis</u>	
Becard (once) collected	
<u>Megarynchus pitangua</u>	sometimes
<u>Empidonax hammondi</u>	almost always seen - ^{will flock} may not move
<u>Cissilopha melanocyanea</u>	always
<u>Turdus greyi</u> -	almost always
<u>Hylocichla ustulata</u>	don't move
<u>Cyclarhis flaviventris</u>	
<u>Vireo solitarius</u>	
<u>Mniotilta varia</u>	
<u>Vermivora peregrina?</u>	
<u>Dendroica townsendi</u>	
<u>Dendroica virens</u>	always - may not
<u>Icterus chrysater</u>	always
" <u>wagleri</u>	
<u>Piranga leucoptera</u>	
<u>Piranga ludoviciana</u>	always
<u>Piranga bidentata</u>	
<u>Tallator atriceps</u>	always except when flock in finca
<u>Hedymeles ludoviciana</u>	

Those marked "always" are part of the flock unit which moves as a whole - others drop behind or are only incidentally part of flock.

Marshall, 1942

37.

General Acct
mt. Cacaguatigue, Dept. Morazan, El Salvador
Summary

Birds stationed in & characteristic of
certain habitats (or found only there)

1. Coffee Finches

Crypturellus cinnamomus

Dactylortyx thoracicus

Leptotila verreauxi (also on edges)

Otus trichopsis

Ceophloeus lineatus

Centurus aurifrons mostly

Megascops pitangua usually

Icterus chrysater (mostly)

2. Giant oak forest with floor of ferns -
Woodhewers

Warblers

Turdus greyi

Trogon viduus

3. Denser, lower oaks on eastern ridges

Trogon elegans

Cicaba virgata

Trogon viduus

~~*Trogon*~~

Squirrel Cuckoo

All 4 woodhewers

warblers

Hepatic Tanagers

4. Thinned oaks - parklike where dead trees

Balanosphyra formicivora

Setophaga picta

Sialia sialis

Marshall, 1942

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General Acct

mt. Caraguateque, Dept Morazan, El Salvador

Summary

5. Clearings - brush at edges

Scardafella inca *Falco sparverius*

Passerina cyanea

6. Humid type of brush

Cyclarhis flaviventris

Oporornis tolmiei ^{also in all other brush}

Thryothorus modestus

Atlapetes gutturalis

7. Arid brush on S slope - flowers -

Geococcyx velox

Thryothorus modestus

Archilochus colubris

Cyclarhis flaviventris

8. Any brushy cover :

Troglodytes musculus

Wilsonia pusilla

9. Banana groves

Campylopterus hemileucurus

10. Cornfields or brush at edge - lower elev. ^{3000 ft.}

Amphispiza ruficauda

Passerina cyanea

11. Birds found everywhere :

Dendroica virens

Cissilopha melanocyanea

Myiarchus tuberculifer

Marshall, 1942

General Area

Los Eses miles

March 17 Left 3am & owl hunted in cloud forest - toward morning heard calls hoo-hoo, hooo ~ last 3 syll.
Stris occidentalis from canyon to north. Windy & foggy (driving clouds) as got light - chorus T. infuscatus & T. plebejus & Myadestes unicolor in cloud forest - also heard Penelopina from all side for a short time. Chorus started off as got light & went to top south peak. In ^{tall dense} brush here at ridge & edge cloud forest got, by squeaking & shooting at "flickers" in brush a Buaneumon (brush well in cloud forest), Atlapetes, Henicopygia.
On saddle between n & s peaks - driving fog - many birds - clear here - grass & baccharis, few trees much rich luxuriant brush. Zonotrichia singing, that heard & saw Chipping Sparrow, both turkeys singing, T. infuscatus right out in brush, T. plebejus in ^{solitary small} trees - much calling & chasing.
2 pairs Blue & White Mockers squeaked up - ♂'s singing. 1 Calif. Woodpecker climbing up stump. Coll. Vigorsia & saw many birds (Elaenia, Chlorospiza, Wilsonia, Robins) along edge brush & cloud forest. Shot-but didn't get Empidonax dux (?) in cloud forest on way back.
P.M.: Catharus occidentalis active along ridge edge forest back camp & in brush of cloud forest - also in open calling ~ Hyla. Hildebrand camped out & said he heard at about 2am. a pr. owls in 1st cloud forest 6 hoots —, ———, — quality of Spotted Owl.

Marshall, 1942

General Acct

Los Esmeriles

March 19 Big day with stuffed owl on hill-side across from camp which was once cloud forest but now logged & 2nd growth dense & 20-30' high also many orig. oaks left. Birds much more numerous here than in cloud forest but not all cloud forest species here (i.e. no *Turdus*, no *Myiodesetes*). There are many warblers & wrens.

Set the owl up 3 times & got the following to call or come around: 2 *Otus trichopsis* (just heard), 3 *Aspathera*, several pairs *Thryothorus modestus*, *Catherpes occidentalis*, 1 weasel which I shot with 22 amp as hopped over leaves. 1 flock 5-6 jays with white over eye - ^{*Myadestes obscurus*} ~~*Catherpes aurantiventris*~~ not sure which sp. - *Catherpes aurantiventris* came close but not seen, many *Chlorospingus*, *Wilsonia*; 2 *Myioborus*, 1 *Dendroica peregrina*, saw several *Empidonax*. *Oporornis* on edge but not within this tract of forest.

March 31 - April 1 Took all into trip down w. slope - halfway down to San Ignacio where grove *Pinus discarpa* on w. ridge. Just brush grass & sparse low bushes beneath & transition in sierras. Has been burned. Called for *Otus flammeolus* at night (full moon) but heard

Marshall, 1942

General a.c't.

Los Escornos (no slope)

March 31 ^{am. 7} none. Heard whippoorwills, Otus trichopsis (3 or 4)
Cryptoglossus (? see sp. a.c't) & Bubo. In
am. coll. Chordeiles acutipennis soaring
in tops of pines. Then as daybreaking,
heard some kind of vireo in pine but
couldn't get. Heard Icterus gularis chrysater
& Cissilopha flocks in canyons & Mt.
Guadalupe. Myadestes common -
1 singing whenever low dense trees,
usually on steep hills or in canyon
bottoms - not in pine grove. Pseudodramus
abundant in pines & esp. in few decid.
trees there - singing & calling loudly; also
Sialia, Cyanocitta (3), Icterus wagleri (2),
Dryobates (several heard), Colaptes (many),
2 pairs Empidonax fulvifrons (in grass &
brush under pines); Setophaga picta
abundant in pines - singing, paired,
Passerina flava (1) in pine, Many
Helodytes zonata in pines & brush,
Troglodytes musculus & Thryothorus modestus
common in underbrush, warblers
Wilsoni, ^{brush} Oporornis, ^{brush} Dendroica townsendi (pines)
Clingophila, ^{reflexus} common in brush, Myiochanes
pertinax common in pines. Ravens, Buteo
also. Very certain that I heard Hylocichla ustulata
flying n. just at dawn.

Marshall, 1942

Ma

Apr. 11

Volcande ^{Quil Auct} Santa Ana, Dept. Santa Ana, El Salvador
April 11

Am. cloudy & windy. Hunted up hill S-E camp thru finca, then pasture (grass corn & brush - where *Zonotrichia*, *Aimophila rufescens*, *Troglodytes*, *musculus* common & singing & *Melospiza asiatica* in flight) ^{to} ~~very~~ ^{not} high. cloud forest with much underbrush. Followed what I thought were *Atlapetes* in brush edge cloud forest - saw pair *Diglossa* & shot one (♂ 2273) there. In cloud forest noted *Empidonax flavescens*, & *Vermivora superciliosa* (abundant) & *Turdus infuscatus* singing. In cornfields & brush ("some tracts very dense high brush") on E side ridge coll. *Empidonax* ^[*albivittatus*] *trillii* (2272), *Virenia* very abundant in flocks (2274, 2277), *Zonotrichia* everywhere - ^{Many *Dendrocygna* calling from} singing from *Cypripedium*. Heavier brush: *Cirsilophia*, heard *Thamnophilus*, *Wilsonia*, coll. *T. rufitorques* from top lone tree. Many sparrows & things in brush - one with call ~ *Melospiza melodia* - couldn't track down. [*Empidonax albigularis*]

April 12

coll on SE flank of main cone of Cerro del Aguilón at about 5500 ft. A good wind up this hillside where

Marshall, 1942

Quil Aest

Apr. 12

Volcan de Santa Ana

coffee being planted under original oaks - very good place for certain birds not found in denser forest: Trogon violaceus, Turdus grayi & assimilis (judging from call-notes), Myadestes obscurus - abundant 3 or 4 singing at same time - . In orig. forest (with dense undergrowth) in undergrowth: T. ~~moder~~ Thryothorus rufalbus & maculipector In trees, edge forest: Tyrannus verticalis, Myiarchus virens, etc. Vermivora superciliaris abundant.

Apr. 13

Hunted warblers in cypress & finca at camp. On way back - thru finca,

Apr. 14

Myadestes, Cissilopha, Icterus, T. grayi warblers ^(Basilantus?), virens, Centurus etc. common in one patch of finca, Chaetura overhead & Melospiza in another place in finca.

Apr. 13

Hunted warblers in cypress & finca around camp where Saltator atricaps, Icterus, grackles, cowbirds, T. grayi, Squirrel Cuckoos, virens warblers, etc.

Apr. 14

P.M.: At evening hunted at n. base Cerro del Navajeros in oak forest & that at Cacaguatigue: Gt. nos. Crypturellus whistling, many T. rufalbus. Cicaba virgata & Otus trichopsis began calling at dusk.

Marshall, 1942

gent Acit

Volcan de Santa Ana

Apr. 14
fr

On Cerro de Los Naranjos all a.m.
gt flat field at base (bare) grackles
& Corvids; ~~cornfields~~ brushy gulches
~~surround~~ flanked by cornfield at
n.e. base: Callithrix lucifer,
Chamaethlypis ^{common} quail (sp?),
Sabrewing rufus, Melanotis,
rabbits, & Volatinia, Aimophila,
Zonotrichia. In oak forest
(in aspect like ~~mount~~ oaks
on Cacaguatique - not so much like
Los Esmeriles - not very high)
Vermivora superciliaris very abundant,
Hylocichla ustulata many singing,
Wilsonia, Vireo solitarius (saw 2),
Piranga leucoptera (saw 4), Lepidocolaptes
affinis (saw 2), heard what I presume
is quail-dove (2 or more), saw & coll.
2 Chlorophonia, many T. rufociliatus.
Heard no robins.

Apr. 15 Cerro del Aguila in a.m. - different
birds on different peaks! Same place
as on 12th but Cypselurus flaviventris,
Lituya, heard Striped Cuckoo (?),
Seiurus amoenus, Cissilopha, Quail
Dove in addition.

Apr. 16 Hiked to Laguna de las Ranas which
is about a mile airline directly

Marshall, 1942

Quil Auct

Volcan de Santa Ana

Apr. 16

nw of main cone of Cerro del Aguilón
& about 5500 to 5800' elev. - an old
crater surrounded by complete circle
of low ridge containing a remarkably
beautiful cloud forest. Lake dry - trees
growing in middle (damp) - plenty
of frogs - 1 pipit coll. Cattle
here in good grass pasture - as
a result cowbirds & grackles &
anis also present. *T. grayi* (heard)
T. assimilis & *T. infuscatus* all in
same trees. *Piranga bidentata*
singing in smaller trees edge forest.
At s-w edge of lake bed on rel. flat
grd. the most beautiful forest of tall
oaks - mat of green plants on clear
grd below a few *Eugenia*-like
shrubs - like a park. But very
few birds: *T. assimilis* & *infuscatus*,
Verreauxia superciliosa, & a few
Cissilopha & *Elanias*. *Zonotrichia*
singing in brush around edge lake bed,
several hawks: *Buteo* & *Accipiter*,
motmots in forest, *Melospiza* in a plantat
Cypress grove - many *Empidonax flavescens*
& *Troglodytes nuscus* & *ruficollis* (seen
together in logs under cypress grove)

Marshall, 1942

General Acct

Lake Olomega, 200ft., Dept. San Miguel, El Salvador

Jan 22 Crossed lake to hacienda in am. Saw sm. swifts & "Olmeca
dorks" & jaegers (?), 2 fregata over lake., water birds.

P. m. night hunted along road w camp. moonlit

Jan 24 am. dense low (20') woods & camp & taller trees at edge
where many birds eating berries. pm. Down road 1 mi.
to next camp.

Jan 26 pm. hunted in grass & corn along ^s edge lake, thence
into arid type forest on west side lake.

Jan 27 am. brushy growth along l. margin & camp.

Jan 28 am. grassland & lakeshore & ^{dry} ~~tall~~ legume groves in
grassland near lake. pm. canyon back of camp.

Jan 29 am. grassland w camp. " " " " "

Jan 30 am. around hacienda pm. " " " "

Jan 31 am. Spring & canyon back of camp.

Feb 2nd am Grassland + brush w. camp.

Feb. 3 a.m. Around edge lake to east.

Feb 4 a.m. Leguminous growth & flowering trees at edge grassland.

Feb " " " " " " " "

* up 2nd canyon w camp.

p.m. Road w camp. (runs along edge grassland)

Feb. 7 am. Around hacienda from l. shore to canyon.

Feb. 9 am. Patches of trees & vines & brush between
grassland and lake.

Feb 10 am. Around W side Lake to low clear (below) forest
on land jutting into lake. ^{on flat ground} Little undergrowth. Many doves

Feb. 11 am. To mixed woods & brush on level land w. side lake.

Feb. 12 am Up long canyon to head in Colinas W. camp.

Feb. 13 am. Same as Feb. 11.

Marshall, 1942

General Acct

Lake Olonca

- Feb. 14 Edge woods along l. e. camp.
- Feb. 15 Hunted on lake from dugout canoe.
- Feb. 17 to jungle along outlet Rio San Miguel
- Feb. 18 am. around camp. pm. to jungle.
- Feb. 20 to mixed woods & brush at W side lake.
- Feb. 21 Hunted in deep jungle - early am.
- Feb. 22 Between hacienda & lakeshore.
- Feb. 23 Up to head long canyon w. camp.
- Feb. 24 Early am. - large trees edge lake, later - in thickets at edge H.O.
- Feb. 26 no collecting - walked up canyon back camp - several mandrills & a *Cyanocompsa*.

El Salvador

Species Accounts

Marshall, 1941 - 2

Crypturellus cinnamomeus

Dec. 29 Mt. Cacaguatigne

R.A. Stirton collected ♀ 1625, made into skeleton, in coffee finca - walking in leaves under coffee bushes in company with 2 Leptotila verreauxi. He saw another elsewhere in the finca, also in company with Leptotila.
skeleton
1625 ♀

Jan 30 1942 Lake Olonega

Flushed one at night from ankle-high brush in woods in Colinas while owl-hunting.

Feb. 12 Flushed 3 while walking along wash up long canyon to camp. Were in brush under trees & flushed when we were almost upon them - go off with loud whirr & direct bullet-like flight.

Feb. 16 In late afternoon, saw 1 in canyon above spring - walked along ground in direct line down to wash, & up next wall of canyon slowly, stopped still every few sec. Very tame, allowed close approach, made loud rustling in leaves as walked. Very hard to see after 40 yds. away - blended with wall. -

Jan 22 - Feb 24 L. Olonega Summary: Common in Colinas de Jucaram along canyons & washes, where in brush or bare leaves. Not in jungle or forests on flat land around edge lake. Every evening (until dark) & very early a.m. could hear as many as 4 or 5 giving loud clear, uninflected single whistle-spaced out in the hills.

Marshall, 1942

Crypturellus cinnamomeus

Cerro de los Naranjos

Abundant in woods at base
north side this mt. in places where
forest and little underbrush, ~~but~~
plenty dead leaves. Run around
in leaves. At dusk, whistles
heard from all parts forest - very
common. Not heard or seen on the
other cones.

Marshall, 1942

Colymbus dominicus

Lake Olomega

Feb. 15

At total of 5 seen around edge
lake where hyacinth islands with
open water between - only near shore.
Swims with head held high, neck straight.
Solitary.

Marshall, 1942

Phalacrocorax divarens

Lake Olomega

Feb 15

Abundant on lake - swimming, flying
& ~~roosting~~ sitting on stumps in lake.
2 roosting colonies noted in large
trees at edge lake where forest comes
to edge. Tree (single one in each case) all
white-washed. 50 individuals sitting
there in daytime.

Marshall, 1942

Aukinga aukinga

Lake Olomege

Feb. 15 in Common in n-w part of lake where many snags & ^{stumps} sticking out of lake. Sitting on these, often holding wings out in sun, head held high. About 30 seen.

Marshall, 1942

Fregata magnificens?

Lake Olomega

Jan 32 2 seen soaring of middle of lake - not
seen again except one from camp.

Marshall, 1942

Ardea herodias

Lake Olomega

Jan 27 ♀ #1802 shot from boat at night by
native hunter, Chico, at edge lake.

Feb 13 One alighted in tree overhead - edge slough
of Rio San Miguel outlet about $\frac{1}{4}$ mi. from edge
lake.

Feb 15 Several seen around edge lake or perched on
floating islands of hyacinth.

Marshall, 1942

American Egret *Casmerodius albus*

Lake Olonega

Feb. 15

Abundant in hyacinth around edge lake - in flocks mixed with other herons - 50 seen at a time. * * * Seen every day on lake - perched on snags, on floating hyacinth, hyacinth around edge. Must be hundreds on the whole lake. Most abundant where lake bounded by open grass meadows or reeds - not where forest comes down to lake.

Marshall, 1942

Snowy Egret
Leucophorix thula

Lake Olomega

Feb 15
Abundant all around edge lake in
^{loose} flocks, mixed flocks with other herons,
& in small groups in hyacinth &
in ones or 2's out over open water,
foraging by graceful slow flight in
circles low over water picking
things up from surface like a gull.

Marshall 1912

Hydranassa tricolor
Louisiana Heron

Lake Olonega

Feb. 15 Common in hyacinth around edge lake.

Marshall, 1942

Florida ~~caerulea~~
Little Blue Heron

Lake Okechogee

Feb. 15 Common in hyacinths, ^{floating} islands of hyacinths
around lake.

Marshall, 1942

Butorides virescens

Lake Olomega

Feb. 10

Common along sloughs of Rio San Miguel where winds thru trees. Forage on hyacinth ~~which~~ which clothes the sloughs - ♀ 191.5 taken from low tree where flew from hyacinth.

Feb. 15

Common in hyacinth & adjacent brush at edge lake in places where forest & trees come to edge lake.

Marshall, 1942

Nyctiorax nyctiorax

Lake Olanegua

Feb. 5

An im. brought in by Gealey - taken from jungle at edge Rio San Miguel. Saved as skull by Hildebrand #1109. — Heard occasionally in evenings flying overhead at dusk.
→ roosting in daytime in same tree as Cochlearis

Nyctanassa violacea

Chulata

2481 taken in daytime - had
flown into ~~palm~~ tree in front
yard of Hacienda chased by
grackles. im. plumage. Far from
water -

Marshall 1942

Tiger Bittern

Heterocnus cabanisi

Lake Olomega

Feb. 10

One flushed from tree at edge slough where
goes thru ^{open} forest at w side lake. Specimen
taken by Gealey from ^{scrub} tree at edge slough
~~leaving country at night~~ ~~Apparently not out in~~
~~open hyacinth like other herons.~~
in grassland on s side lake - almost
1/2 mi. from edge lake in very dry country.
Taken at night. - - Not seen in hyacinth
out on lake.

Marshall, 1942

Cochlearis cochlearis

Lake Olomega

Feb. 15 ¹⁹⁵¹ ♂ taken - apparently asleep - solitary
in brush under tall trees at edge lake.

[My other specimens coll by Galey from
roosting tree in jungle (beside river)
where many roosting 50 ± in daytime.]

Fabium mysteria

Lake Olmaga

all of party saw a single specimen when we were loading at Olmaga lake shore to go over to camp (1st day there). Davis identified it (large size; white). I was not there at the time that it flew low over the party but saw it later at a distance thru binocs.

Marshall, 1942

Dendrocygna autumnalis

Lake Olomega

Specimens taken by Chico Stinton
& Galey from flocks flying over
lilypond in lake. 2 skins were
eaten by dog, so now only skeletons.

Feb 15
mm Abundant in NW part of lake. 2
flocks of 50-75 seen on water - ^{individuals} massed
close together, flew at gt. distance.
Other flocks of 20 or more, 2's & 3's
in flight - circling around lake -
fly 100' up or so. Always give
high musical piping notes. Fly in
flight, look very long-winged, slower
strokes & slower flight than other ducks.
- Heard in flight (flocks giving ^{drumming} piping calls)
on every moonlit night - flying high
over lake and over land around lake.
Not paired at this season.

Marshall, 1942

Cairina moschata

Lake Olomega

Jan. 24 # 1785 shel. taken by Stirton as perched with
several others in large tree at edge clearing
in jungle ~~along Rio San Miguel~~. w side lake.
He saw flocks in flight over jungle also.

Marshall, 1942

~~Green-winged Teal~~

Querquedula discors

Lake Olomega

a ♂ ad in stom. of 1st crocodile skinned
by J. Davis.

Nyroca affinis

Lake Olonega
seen by Davis & myself
in middle of lake. I saw only
2 or 3 & wasn't certain of their identity.

Marshall, 1942

Cathartes aura

Dec 25-Jan 16 Mt. Caraguatigue

Common, but outnumbered by Coragyps.
Found more often soaring over higher
ridges - at times coming close to
ridge. Not around habitations as
is Coragyps - aloof, in 1's, 2's or
groups, but not ~~ways~~ mingled
with Coragyps. One day saw one
perches in interior of crown of
large oak during heat of mid-day.

Jan 22-Feb 24 Lake Okomega

Common, especially above ridges of the
Colinas - outnumbered 10:1 by Coragyps
around flat country around lake.

Feb 6 4 flushed from dead peccari at edge foothills.

Feb 12 2 " " " porcupine in heavy and
forest in foothills. No coragyps.

Feb 15 4 or 5 at dead monkey in canyon back of
camp.

Los Esmeriles

Common

Santa Ana

"

Chilata

"

Marshall, 1942

Coragyps atratus

December 25 - Jan. 16 Mt. Cacaguatigue

Abundant - in groups or loose flocks, especially around habitations. In midday, perch in groups on dead snags, hold out wings in sun. At night - roost in finca - lots of hissing & flapping around even after dark. Often seen on ground around houses. Also on trails & roads in finca where, when approached, they lope away with a curious awkward gallop & jump with one foot ~~more~~ ^{harder} than the other. They soar with wings held out straighter than Cathartes & often with feet dangling. The 2 sp. don't associate closely at all.

Jan. 22 - Feb. 24 Lake Olomega

Abundant, especially around flat country around lake - came immediately to carcasses put out around camp. Common at ~~Santa~~ Chilista.

Marshall, 1942

Sarcorhamphus papa

Feb. 5 min Lake Olomega, 200 ft., Dept. San Miguel, El Salvador
#1863 + 1864 shot by R.A. Stinton from up in
the horiz. branches of a huge tree
(white trunk, spherical crown) towering
above rest of arid woods along 2nd
wash west of hacienda. Just at beginning
of land ^{slope} tilting up into Colinas. About
1 ~~mi~~ mi from shore - away from habitations
by 1/2 mi. ^{Early in afternoon} Stinton 1st saw an adult
perched in this tree, he shot it, and
3 flew up from the ground - also
black buzzards & Turkey Buzzards. 1,
a young one (black all over head)
some white in plumage, flew directly
away, the other 2, adults, flew into the
large tree. The 1st ad, meanwhile flew
to another tree, & 2 of the remaining
3 ad. were killed. Didn't fly when
shot at. - The specimens were well-cranned with fresh meat.

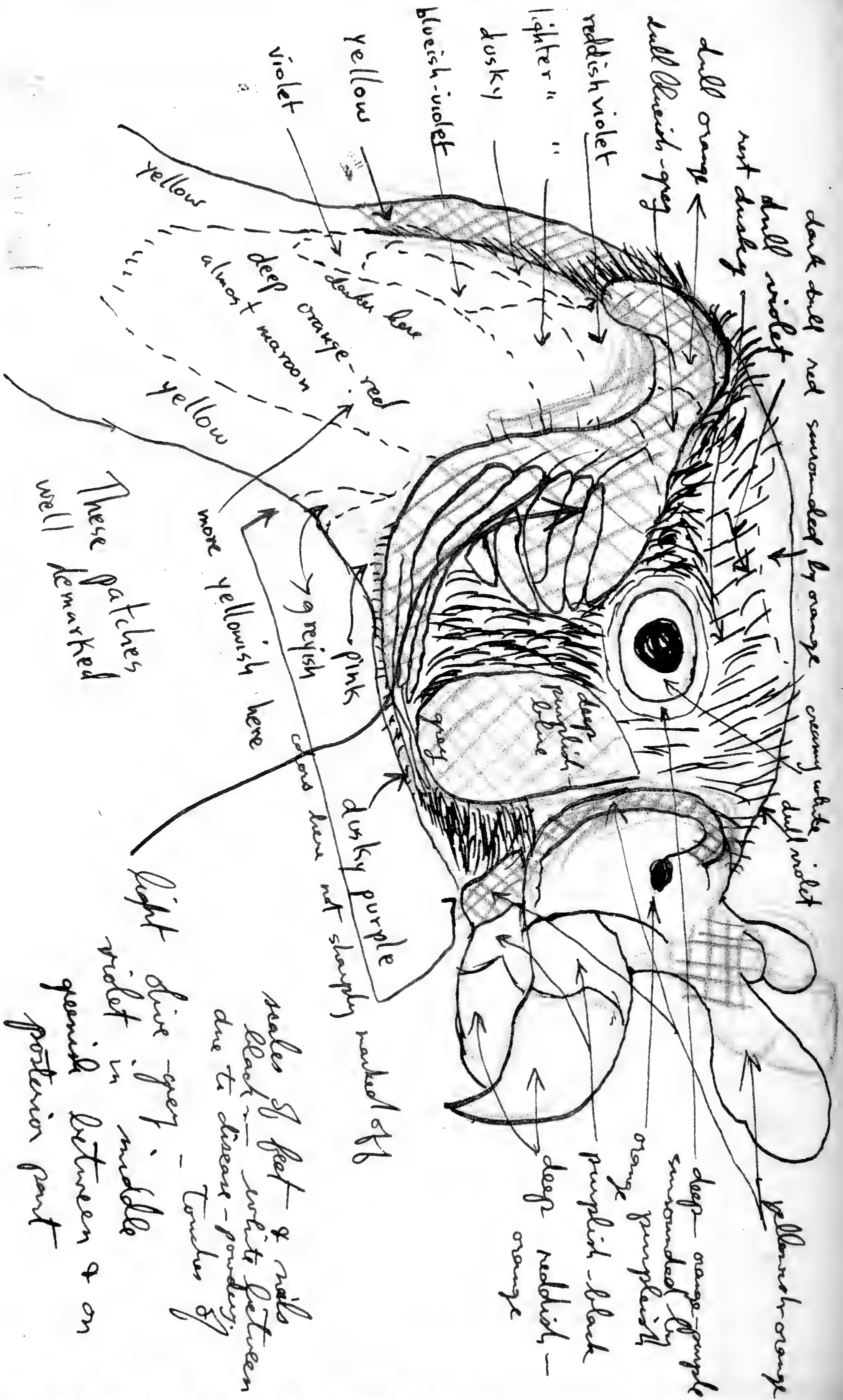
Feb. 6 min I went to same place as above in order
to look for more king vultures. Flushed
4 Turkey vultures at the base of the large
tree no kings - found the prey - a dead
peccari well-cleaned, the skin diced.

Jan 26 or 27 min 2 in flight over grassland near hacienda
(toward lake) not in "tower" of other vultures.
When 1st seen, about 150 ft high. Soon
rose, circling & flew soared away. Didn't see

Marshall, 1942

Feb 9

Sarcophagus papa



Marshall, 1942

Sarcorhamphus papa

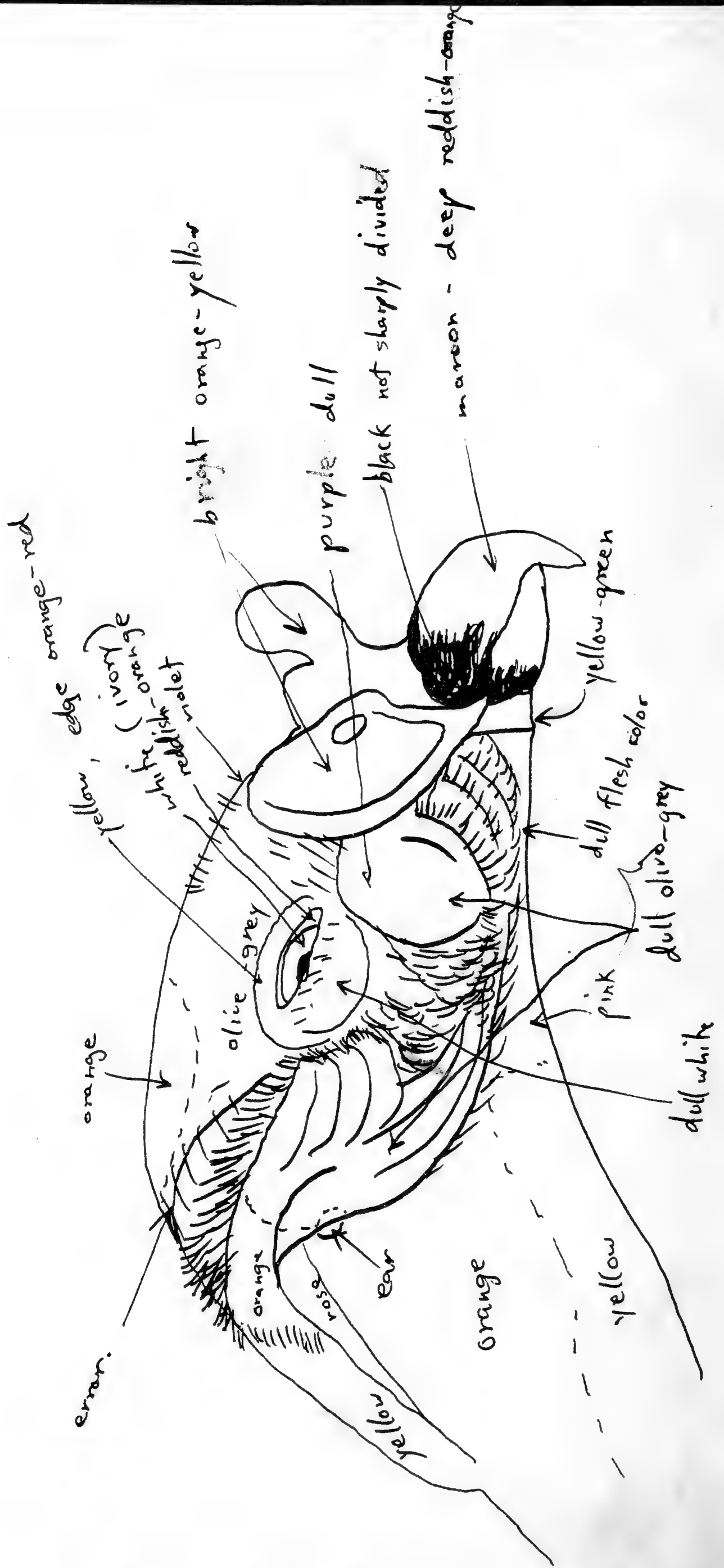
Sarcorhamphus papa John Davis # 1273

head as in adult - brighter colors probably because I got colors on the adult after it had been dead a day. Wattle ~ but postero-lateral lobes smaller than in ad.

Plumage:

entire upper part black - several. ^{fluffy} a juvenile (looser)
scapulars white with $1\frac{1}{2}$ " of brownish-grey at tip.
Some whitish coverts at bend of wing with grey mesial portions. New black
secondaries with narrow (1 mm.) margin of white, then 6 mm. of brownish grey - outer web. Several grey feathers in ruff - rest of ruff black.

Under parts white - not cream. Except for most of greater primary coverts and a few lesser coverts which are ^{dusky} grey (greater coverts white in concealed portion) most of coverts along extreme ant. edge of wing are grey - A few 2nd coverts with grey exposed portions. 1 feather on thigh with large patch of grey
Remiges white at base (concealed)



Marshall, 1942

Sarcorhamphus papa

Lake Omege

Jan 26 or 27

them flap, just soared with wings straight out - leading edge of both wings in same str. line as seen from below - not ^{much} tilt noticeable either. Wingspread not much greater than Turkey vulture if as much but wings broader, body much larger. Both adults - at least white below.

Feb. 13

One seen soaring over jungle & cleared land at w. end lake in am. about 10.

Feb 9

^{day after Stitt shot dog} About 1:30 p.m. clear day - great "tower" of black & turkey vultures over dead dog in cleared area fields near lake. 2 ad keps seen with them - always at the top of the tower (about 75 vultures) ^{in circles} soared higher & then str. off to w. to join another circling column of blacks & turkeys, also staying at the top here. Finally whole column moved off over w end lake & lost to view.

- Tried to bait condors several times - no luck. Apparently stay well up in the colinas most of time.

Los Esmeriles

April
March 3

1 perched at noon on stump 50 yd. from house - vultures around after bird & mammal bodies. Perched with body inclined forward. A full ad. - jumped off & flapped a couple times then soared & rose & made off. Wings bow forward: (over)



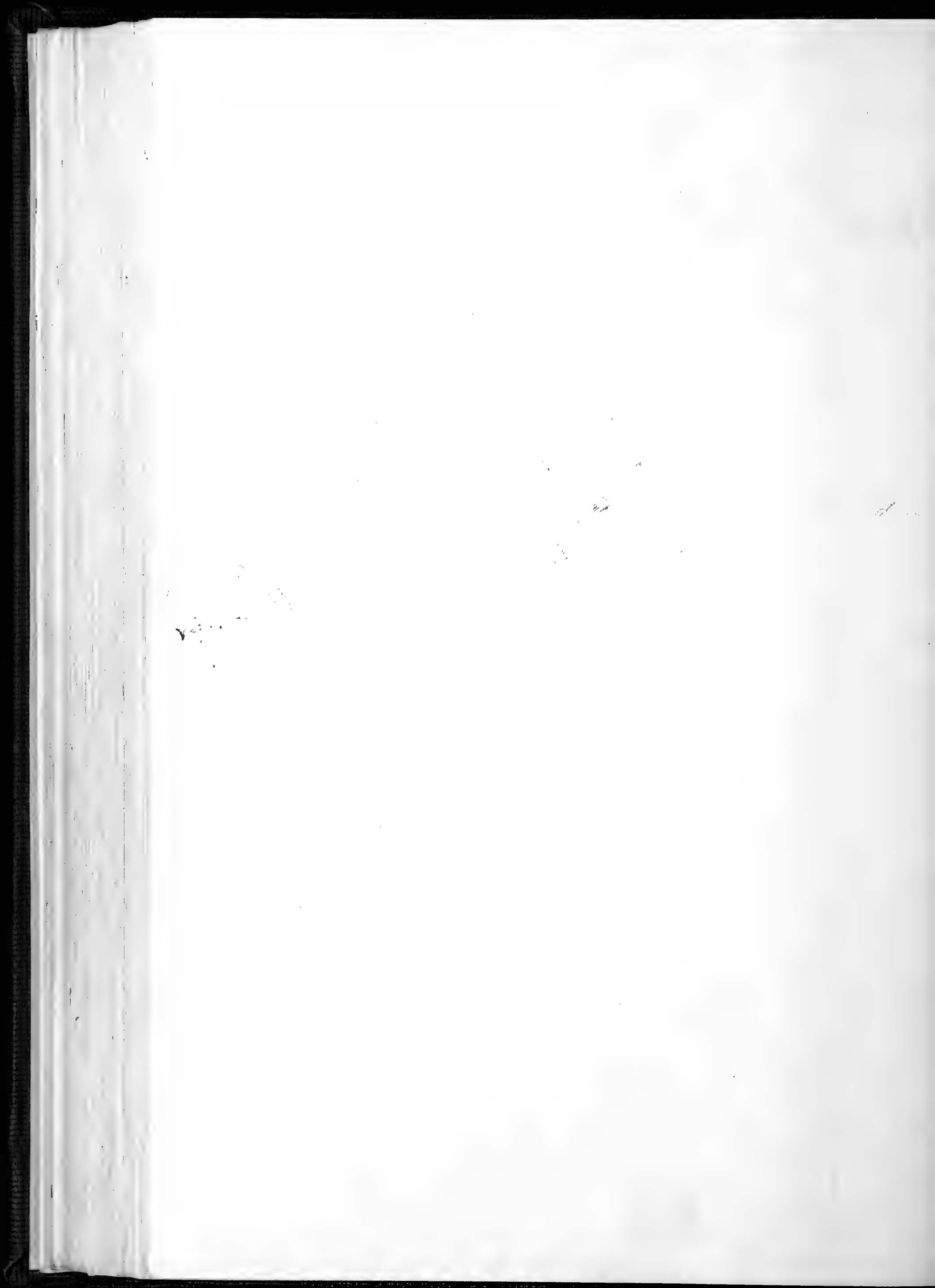
Marshall, 1942

Odontriorechis palliatus

Lake Olomega

Jan 22

Picking carcass on road s side
lake - Mitt Hildebrand's number - will
make good skeleton - feathers saved
to clinch identification.



1942

Chondrohierax uncinatus

Volcan de Santa Ana

April 18

In late afternoon from heavy forest (mostly alder) on n. side near summit heard a loud note repeated about every 30 sec.

Stalked very cautiously but couldn't find in foliage of trees.

Later heard again & saw ^{an} black hawk - very black - fly rapidly into forest & perch on horiz. limb where I could only see its tail (spread just as it alighted) was long black & crossed by several white bands.



Marshall, 1942

Accipiter striatus

Lake Omega

Jan 22-Feb 24 Single individuals seen several
times around camp or in acid-gum
timber - always in flight.



Marshall, 1942

Accipiter erythronemius?

Loa Esomiles

March 31 at noon 1 perched on stump near house.
Looked at it with glasses - typical accipiter
perching with body almost horizontal. Saw flank
bars of black but no red, apparently
white below. Slaty blue above. Small.
Nate shot & missed & the hawk streaked
off with amazing speed then soared
in circles high over the ridge.

Marshall, 1942

Buteo jamaicensis

Mt. Cacagatigue

January 3 ♂ 1672 taken as perched above road on
dead oak snag in oak area extensively thinned.

Jan 4 One seen pursued by sparrow hawk -
flying low over clearing near hacienda.

Jan 5 ♀ 1686 Taken by Nate Geer from ridge of
Mt. Black phase, larger than costaricensis.

— Pair seen over clearing several other
times — fairly common.

♂ 1672 skin

♀ 1686 skin

Jan 30 Lake Olomega

♀ in 1831 (bird, scinurus, grasshoppers) taken by
Hildebrand in evening flying over open fields
near shore.

Loxia Esmerules Common — must have
been a dozen pairs on the mt.

— Black hawk with ^{pure} white tail - Mt. Cacagatigue
January 16, 1942 - 2 soaring high over finca

— Blackish hawk with white bands on tail
2 low on N slope January 11, below ^{to} limit of oaks.

Marshall, 1942

Buteo platypterus

Lake Alomega

Feb. 4 ♀ 1861 flushed at dusk from dense tree
in narrow canyon above spring.

Marshall, 1942

Buteo magnirostris

Lake Olomega

Jan 22 ♀ 1769 taken by Stinton & Davis from tree
at edge road in open co. w camp.

Jan 28 ♂ 1813 flushed at night when shined
light at roosting tree in open tree growth
sw corner lake - shot when sat in
nearly low tree.

Feb 22 2 calling with loud keer & flicker
as perched in ^{trees} legumes in grassy area
near lake.

Summary - very common in sparse
tree growth in flat open country around
lake. Very noisy - paired usually.

Marshall, 1942

Buteo plagiatus

Lake Okechobee

Jan 28 ♂ 1804 taken as perched in tree near
farmhouse.

Jan 31 ♀ 1837 taken in trees on hillside
in canyon back of camp.

Jan 29 One flushed from trees in grassland
on gentle slope w camp.

- Seen many times, but far outnumbered
by B. magnirostris Call ~ B. borealis
but not as loud nor long. Seen often
circling over fields - seen twice up
washes in colinas. Always single.

Chilata

May 6 A pair of ad. seen in
wooded canyon.

2560 very tame - perched on sm.
tree in gorge of canyon.

Marshall, 1942

Buteo swainsoni

Los Eses miles

March 15 Saw about a doz. or more ^{prob. this sp. (Asaguenes)} soaring
s-e, turning E above s. peak -
then nests at about 10 a.m.
No flapping - wings semi-bent - sharp:



March 28 Especially large numbers today - 3 groups
of about 50 each in late afternoon - circling
+ rising, then soaring off to s.e.!

Volcan de Santa Ana

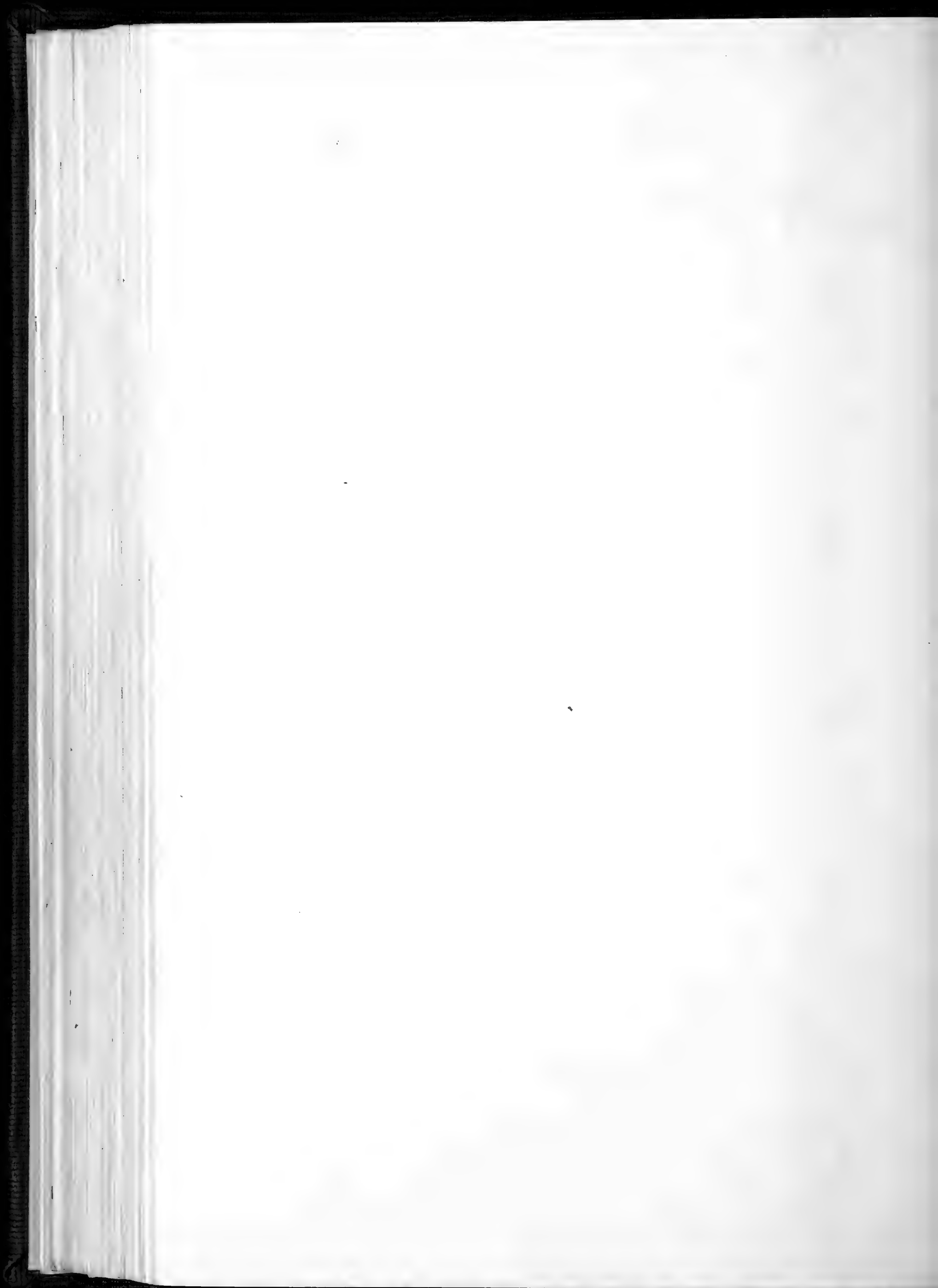
Large flocks seen almost daily -
often came low enough to feed on
cicadas & grasshoppers.

Marshall, 1942

Hypomorphus urnbitinga

Lake Olomega

Jan 31 1838 ♀ attracted to me by owl calls
in narrow dark canyon above spring -
in large dark green trees char. of ravines.
Coll. - came close.



Marshall, 1942

Buteogallus anthracinus

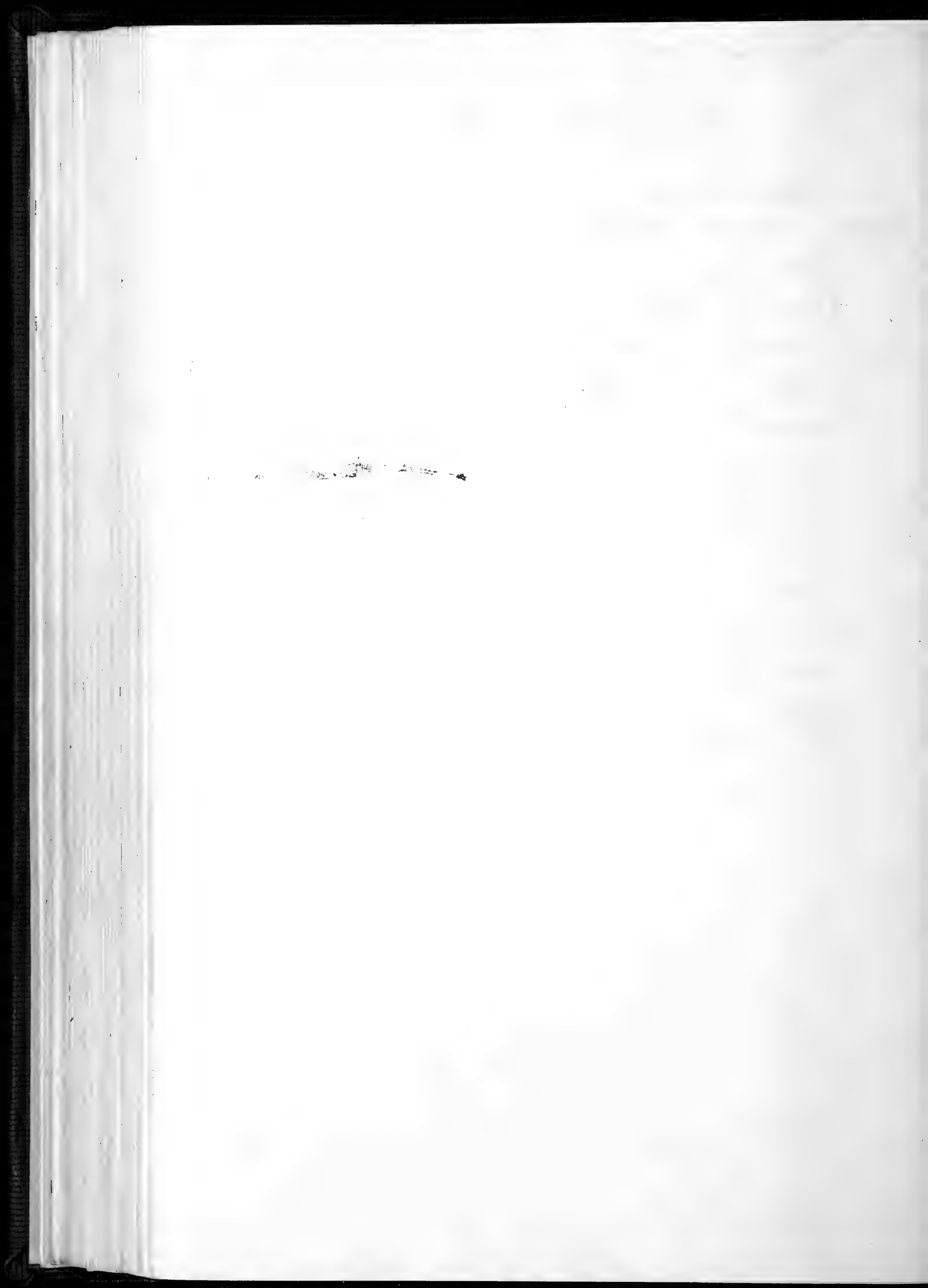
Lake Olomega

Jan 24 1787 ♂ & 1788 ♀ ♂ black, ♀ with brown
bases of intercapulars taken by Stinton from
l. trees at edge clearing in jungle wind lake.

Feb 6 ♂ 1870, ♀ 1871 skels. reverse color of above,
taken in afternoon by Gealey at ~~edge~~ arid
woods & cornfields w camp - 1/2 mi
from lake shore.

Chilata

A pair or 2 inhabited
gorge of stream canyon - much
calling when I would app. their
headquarters. Perch high on dead
trees overlooking the gorge.
Sail out over mts. too.



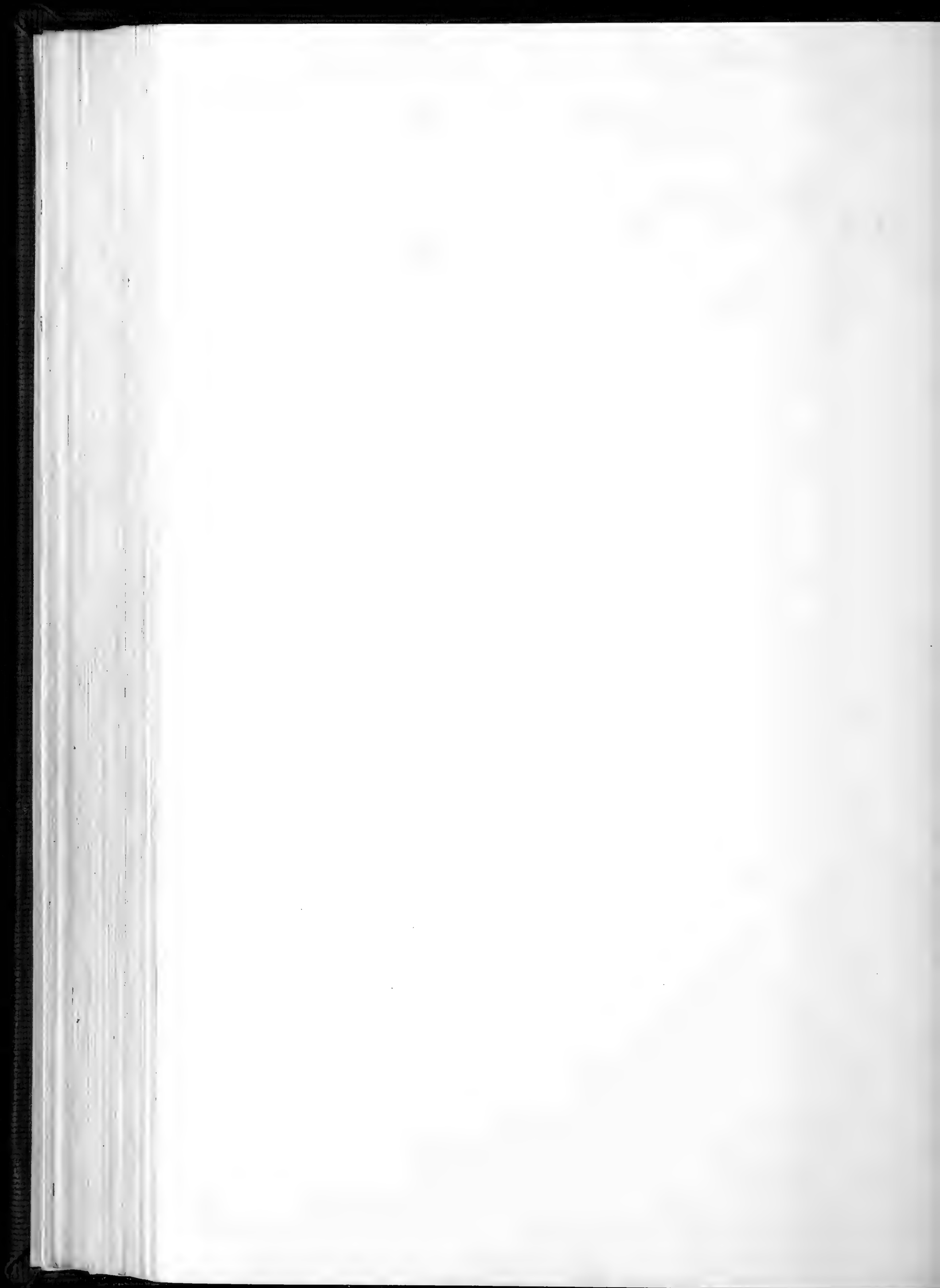
Marshall, 1942

Buteogallus anthracinus
Parabuteo unicinctus

Lake Okechobee

Feb. 3

♂ 1854 taken in late afternoon by
Gealey in acid foothill timber 1/2 mi
from lake.



Marshall, 1942

Busarellus iniquicollis

Lake Olomege

Jan 26 #1797 taken at night (seen in moonlight)
from high (top) dead snag w side lake.

Feb 3 One flushed from tree at edge lake -
alighted in ~~the~~ trees $\frac{2}{3}$ way up but out where
could overlook lake - allways seen
where big trees come down to edge lake.



Marshall, 1942

Spizaetus ornatus

Lake Olonga

Jan 31. All 4 specimens coll. in
dense trees in area of little
spring in canyon back of camp.
1st flew to a little dead tree
over my head (I had been
giving Myiarchus calls) & looked
at me from between its legs.
A very impressive gosawk-appearing
bird (short wings, long tail.)
1st spec. I shot to the side
of it, and it flew off down the
canyon. Stitt found it hours
later - by figuring that since
it was a dense forest sp., it
would make for a dense
clump of trees. He went
to the only other dense clump
of trees along the stream &
found it, dead in the water.

The birds had apparently
come there, or had been interested
in the live traps which
contained opossums. Stitt said the
traps had been knocked around a
lot & the brush pushed off them.
Only one had fed. contents saved
some to medium sized bird.

Marshall, 1942

Geranospiza nigra

Lake Olomega

Jan 24 ♀ 1786 (parakeet in stom.) shot by Stinton
at edge clearing in jungle at near outlet
Rio San Miguel.

Feb 24 One seen in large tree overhead in
grove near edge lake & hacienda. Very tame.
Long slender red legs conspicuous & diagnostic.
I didn't have gun. It gave a call like
a red-tail only shorter & not as loud - very
buteo-like in char. Presently flew & beat
around over fields along edge to W in
large circles about 30 yds. above ground.
Wings very broad - floppy sort of flight,
not boyaunt - very slow.

Marshall, 1942

Pandion haliaetus

Lake Okechogee

Feb. 15

One taken for skel. as perched on
dead tree edge lake eating a large fish.

Marshall, 1942

Herpetotheres cachimnans

Lake Omega

Not as much in evidence as Microstus because apparently move around more. The last 2 mornings at camp, a pair was calling from large trees at edge of lake - duet.

Previously, I had been seen in large tree in arid type forest.

Chilata

Several heard; one coll. from stream gorge.

Calls: duet - loud single note is upward inflected (the opposite of Microstus) heard on cloudy afternoon & rainy a.m. Notes get faster & faster then each proceeded by higher note quoo quaa.

Marshall, 1942

Microaster semitorquatus

Lake Olomega

Heard every evening & early am. at camp - always from same spot. Also one morning one called from edge Rio San Miguel in swamp forest.

1st specimen taken by R. Stirling at the spring back of camp at dusk. It was entering a hole in a large tree about 40' up.

Next specimen taken by me early am. Both birds had been calling far up the mt. but I gave imitation & they came closer. Finally the male came down to the woods at edge lake & chased a pair Caracaras, then perched in dead tree where I shot it. Perches with tail down & head inclined forward. ♀ also seen & chased from out of all the dense clumps of trees where it would alight - same posture - usually body horizontal - very strange for hawk more like Chachalaca. Shot at it several times.

Call of male: loud gawk - with downward inflection.

Myiastur semitorquatus

L. Olomega

♀ similar but often preceded by 4 calls notes each higher in pitch - all not as loud & clear as in ♂. Not duet performance as in laughing falcon.

Cerro de los Naranjos - on 2 evenings was heard from woods at base. ♂ call.

Chilata heard several times from dense woods.

Compared with laughing falcon, this sp. has more fixed or limited terr. Always calls from same place.

Marshall, 1942

Polyborus cheriway

Jan 22-Feb 24 Lake Olomega

Common in trees around open country.
2 pairs seen, apparently nesting. At one
nest tree in middle large cornfield were
3 - one sitting on nest, another perched,
3rd came from trees at edge field &
copulated with one on nest! Same place
where 1770 coll. Jan 22. Call a loud

harsh long rattle. Fly with shallow
wing-beats, head, bill pointing down, neck
str. out. Another pair at large

tall snag standing above dense low
forest & camp. Seen every day - chased
by Microtus semitorquatus early am.

Not seen at carrion except once or twice
at camp. Carrion put for vultures 25 yds.
from 1st nest tree, yet didn't come.

Los Esmerales

March 29 One flew north over camp in evening.

Volcan de Santa Ana

Fed on grasshoppers in
coffee finca.

Falco peregrinus ?

L. O lomega

Large falcon seen in flight
one a.m.

Marshall, 1942

Falco albicollaris

Mt. Cacagnatigue

Jan 3 See gen. acct. p. 14.

Nate Geer saw another at same place several days later - perched on dead snag at top of pk. & didn't allow approach nearer than 100 yds.

1673 ♂ skin & skeleton - forgot to take measurements.

Feb 17 Lake Olomega

In afternoon, 2 flew several times around camp calling loudly ~ sparrow-hawk but louder & fiercer. High in air, alternate swift flapping & soaring in circles.

Feb. 19 1 seen & heard over timber & camp in early am.

Chilata

Found feathers & pellets below chink in big g. cave in gorge. A pair occupied a rocky knoll above this gorge. Perched in conspicuous places. One time appeared to be feeding on termites in air. Once watched pursued by Collared Swifts. Missed ^{or couldn't find} both birds. Called frequently ~ sparrow hawk.

Marshall, 1941-2

Falco sparverius

Mt. Cacaguatigue, Dept. Morazan, El Salvador

Dec. 28 took a male perched on
little branch of large pine 12 ft. from
ground - on pine knoll. Prep. by D. Elliott.

Jan. 14 3 - ? at least 2 seen around
yard of a hut on ridge north of
highest summit. Chasing each other.

1 skin

Dec 25-Jan 16 1 seen everyday on snag
in clearing near hacienda

Concl: Common - around clearings,
throughout.

Jan 22-Feb 24 Lake Olomega

4 or 5 always seen around edges of
grassland west of camp.

Los Eses miles - Abundant in
clearings, where perch on dead
stubs.

Marshall, 1942

Ortalis leucogaster

Lake Olomega

Only in dense large trees either along Rio San Miguel (but not in the swamp forest) or at very edge of lake. Very silent & inconspicuous. Spec. taken from latter place. One day saw 2 or 3 in trees about $\frac{1}{2}$ mi. from Lake. At the river - would fly along or across R. & perch high on dead trees, tail down, head & neck very slender & held high. White tail tip conspicuous in flight.

Marshall, 1942

Penelopina nigra

Los Eses miles

March 12 At dusk - in cloud forest tried to see these birds - high in orchid oaks - saw only when flew - would give long shrill whistle starting very low & rising very high - very loud: then 2 reports (claps) followed by long rattle descending in pitch - explosive - given in flight. 2 or 3 where I was - heard others all around - across canyon etc. - on every ridge of cloud forest - very common.

♂ 2069 taken by Joe Sartz in cloud forest. He flushed 2 on the ground - this in tree.

March 14 ♂ 2087 taken Hildebrand in high cloud forest tree.

March 16 ♂ 2107 skel " " in 1st cloud forest at dusk - saw silhouette high in tree. He saw 6 morning & afternoon not in midday - " ^{saw} ~~says~~ them fly in & alight ~~then~~ (give rattle in flight - perhaps perched also) then they run thru the tree-tops & get out of sight - not graceful but very efficient - wings held out but not flapped much, run ^{hop} from branch to branch.

Color of soft parts: 2069 & 2087 ^{iris red}; skin around eye mixed olive & red lighter on lower lid; bill, throat, wattle, feet coral red - bill deeper red at base, slightly yellowish at tip. Claws olive-brown. 2107 similar line of dusky on outside of tarsus consisting of small lateral scales. 2107 similar but no dusky on tarsus, ^{slight} dusky tip & ^{edge} ant. termin. of maxilla, ²¹⁰⁷ Brown below each feather edged

1 Head ^{with grey, tail coverts flecked with brown distally} by Hildebrand on Volcan de Santa Ana. high elev.

Marshall, 1942

Penelope purpurascens

Lake Olonga

1 Specimen taken by our native
hunter far in interior of Colinas
de Jucuran - from tops trees
where feeding on lg. fruits.

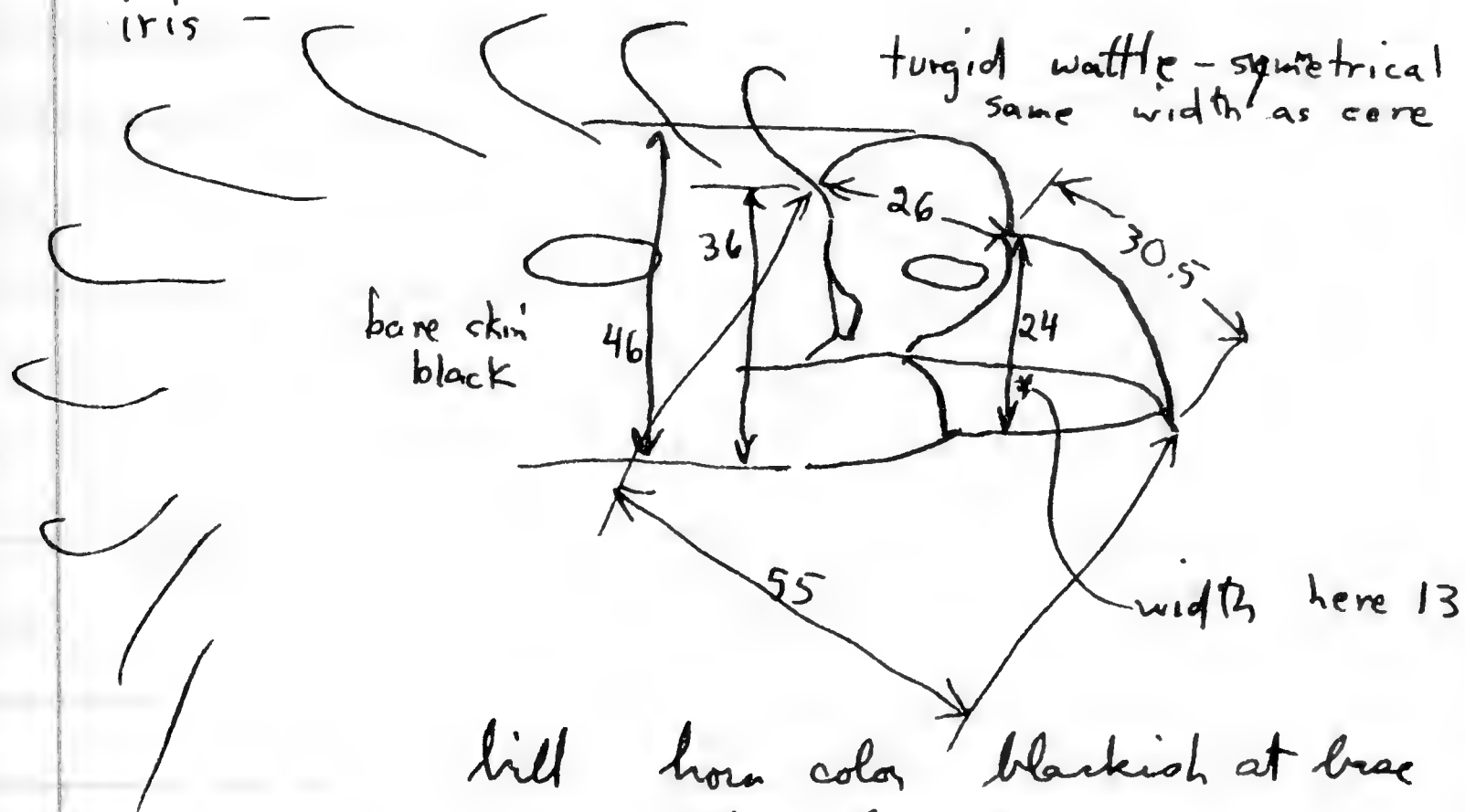
Marshall, 1942

Crax globuliera

Lake Olomega

♂ 2005 skeleton

iris -



bill horn color blackish at base

cere & wattle bright yellow

feet pale blueish-grey, claws light whitish grey.

length 1017 (~~chord of wing~~) Weight $8\frac{4}{5}$ lbs.

spread 1333 " " "

wing 383 (chord of wing)

tail 353

tarsus 115

middle toe + claw 103

all black except for white under tail coverts, abdomen patch of down and long feathers on side of femur.

Sexual Under tail coverts with black mesial flecks.

Specimens all taken by our native hunter in Colinas de Jucuaran - flocking & on the ground.

Marshall, 1942

Colinus leucopogon

Lake Olonega

Flock of about 30 at edges
trees in grassland near camp.
Several taken from the flock.

Chilata

pairs here (in May) I
saw several pairs and took one
♂ & ♀ from grass on knoll.

Marshall, 1941-2

Dactylortyx thoracicus

Int. Cacagnatigue

Dec. 25 - Jan 16

Common in finca
where forage in leaves under
coffee bushes — None seen by me —
specimens coll. by Geer, Stirt, &
Hildebrand.

♂ 1619 geer skin

♀ 1626 stirt skeleton

♀ 1627 " skin

♀ 1690 native "

♂ 1702 skeleton

♂ 1713 skin

♀ 1714 "

Cerro del Aguila

Specimen taken one evening in
finca — I had followed its call
for about $\frac{1}{2}$ mi — very loud. Finally
found the bird rumaging over leaves
on ground. Then I knew what the
calls were which I had heard
daily from dense high growth in
canyons & borders of cloud forest.
Very loud whistle kū kū kū kū kū
& long whistles kū each higher in pitch, then
3 phrases descending 1st 2 of 2 syll, 2nd higher.

Cyrtomys ocellatus

Los Esesmites

April 6 ~~On Apr~~ On way down mt.
heard quail notes 4-5000 ft on
w. slope from corn field - might
have been this species.

Marshall, 1942

Dendrocygna lineophrys

Los Escudales

March 15 ~~Flushed one on ridge~~ ^{No - this was large. ∴ ♀ Penelopina} saw one fly across ridge of cloud forest - coming from & heading toward dense brush down on slopes. Alighted & could see it bobbing tail ~~in~~ in distance. 2096 taken by Stirt - he saw a pair dust-bathing ^{at 4:00 PM.} in trail in lg. area of blackberry - away from cloud forest. When they saw him, they went around a corner & crouched, then ♀ ran up trail & into brush & he shot the ♂ when he followed.

March 23 2152 taken in bushes back camp, early foggy am. Was calling quō, quō, quō, quō, whee-whee, quō, whee whee 1st note "quō" becomes harsh & breathy after several times. Very loud call - heard under same bushes back camp March 21, & 22 - Stirt flushed the bird Mar. 21. Calls in early am. ♀ will answer those calling across canyon. These calls come from single birds spaced out in blackberry brush - 1 on each ridge or brushy hillside in am. I stalked thru the brush & finally saw this bird crouched on a down log in dense brush, low trees & vines. Motionless. Very common & not now in flocks.

Volcan de Santa Ana Calls often heard in dense brush on top hill back camp. I could

Dendrocygna leucophrys.

V. de Santa Ana

get several birds started by
giving imitation.

Marshall, 1942

Coot Fulica americana

Lake Olomega

Feb. 26 Several seen swimming among hyacinths
at landing at Olomega. about 12.

Marshall, 1942

Jacana spinosa

Lake Olomega

Abundant on hyacinth
around edges of lake.

Marshall, 1942

Charadrius vociferus

Lake Olonega

Feb. 15 Heard or in open co. W side lake.

Marshall, 1942

Actitis macularia

noted at L. Olomega, Goterra (river), &
Rio Lempa near San Ignacio.

Marshall, 1941-2

Columba fasciata

Mt. Cacaguatigue
Dec. 25 - Jan 16 occasionally
Heard frequently from pines
in finca.

Jan 2 fin ♂ 1662 skin taken from snag on
top of one of the peaks (in finca)
where perched with mate.

Jan 4 fin Several seen perched in foliage in
top of broad-crowned pine on ridge
in finca. Mate shot one ♀ 1676
2 skins (Davis also got 2 skins)

Los Esmeriles
in finca

abundant in dense cloud forest.

Volcan de Santa Ana common

Marshall, 1941-2

Columba flavirostris

Dec 25-Jan 16 Mt. Cacaguatigue

Most numerous member of order in the finca & also seen in oaks. In early morning, cooing from almost every tall dead snag. ~~Not~~ in the finca. Not seen much during rest of day - rather quiet & in oaks probably.

Pairs often seen perched close together on snags early in a.m. When in oaks would flush, fly thru tree to next & walk along branches to other side of tree as you advance.

1 skin (♂), 3 skeletons (♂, ♂, ♀)

Lake Olomega Common in arid type of woods.

Marshall, 1942

Zenaidura macroura

Lake Omeza

~~Saw~~ ^{flushed} a compact flock of about
25 from grassland & sparse
acacia growth.

Marshall, 1942

Melopelia asiatica

Lake Olomega

Huge flocks of thousands
all around ^{flatland} lake except hills
& swamp forest. Fly in
smaller units low over trees;
each successive group takes same
route. Feed in tops trees.
When start to fly, the clapping
of launching birds lasts several
minutes.

Zoo Esmeraldas

Individuals

occasionally flew by camp -
in open co. below cloud forest.

V. de Santa Ana

Common - not

flocking.

Several at Cypress

Grove at Laguna de las Ranas -

cooing. One taken.

Marshall, 1942

Columbigallina rufipennis

Lake Olomega

Abundant in grassland around lake.
(flat co.) Mostly paired.

Marshall, 1942

Claytonia pretiosa

Lake Okechobee

hoot: goo-uh mellow. Only in high trees in dense swamp forest.

Very shy, tho came to imitated call when I was close enough.

A male every few hundred yards in swamp forest only.

Marshall, 1941-2

Scardafella inca

Dec. 25 - Jan 16 Mt. Cacaguatigue
~~very~~ local at this altitude (4600 ft.)

Several pairs around clearing in
finca where grass & brush. Would
perch on stumps, or in trees
or flush into brush. Foraged
on trails & roads. Perched also
on wires & fence around coffee
drying ground. About 4 pairs in
the vicinity. 1 skin Taken Jan 5 from

fence at clearing ♂ 1680
Jan 18 ~~got~~ ^{from} ~~On trip~~ ^{Dept. Morazan, El Salvador} down mt. to Goterra,
became more common lower down
until very abundant - cooing
everywhere.

Lake Olomega Abundant in grassland -
not as common as Columbigallia.

Ch. V. de Santa Ana noted - open ground.

Chilata

2000

Marshall, 1941-2

Leptotila verreauxi

Dec. 25 - Jan 16 Mt. Cacaguatigue

Common in finca, especially in or near
shady ravines - always foraging in
shady cool place. Usually in pairs -
cooing even when foraging in leaves
under coffee bushes. Also perch
in shade trees & coo - a very
marked, upward inflection.

co. coooooo falsetto. 1 skin ♂ 1601 ^{in finca}

Lake Olomega Common in open type
and woods on flat ground.

Chilata Common in woods.

~~Oreopter~~ Oreopeleia albifacies

Heard (single loud muffled hoot)
in cloud forest Cerro del
Aguila, Jeco (back of camp), Cerro
de los Naranjos only. Same
bird called from same tree
every day. High in trees, never
could see, and would stop
hooting when I came within 50 yds.

Marshall, 1942

Ara macao

Lake Omega

One a.m. a pair seen
flying at great height over canyon
back of camp. Very long tails.
Flew close together.

Marshall, 1942

Aratinga holochlora

Lake Olomega

A flock of about 30 fed
daily in a few large trees in
the open co. near the lake.
Terrible racket esp. when fly.

Marshall, 1942

Aratinga canicularis

Lake Olomega Pairs - one day
a pair seen excavating a hole
in termite nest. One taken but
didn't have termites in stom...
excavating a nest.

Chilata A ~~large~~ flock in Balsam
grove - one taken.

Marshall, 1942

Amazona auropalliata

Lake Olomega

Pairs or small groups in
arid woods in flatlands around
lake.

Marshall, ¹⁹⁴¹⁻1942

Piraya cayana

Mt. Cacaguatigue, Dept. Morazan, El Salvador

Dec. 30 ♀ 1635 skel Taken in pure oaks with brush below on ^{an} east ridge (west side of same.) Altho large, very hard to see in oaks because will sit very still - also slips thru foliage without moving tail much - so no part of the bird shows - almost uncanny at concealment.

Jan 10 ♀ 1727 in deep virgin oaks on east end of mt. Again well concealed all the time that ^{was} moving thru foliage - keeps tail along limbs?

Concl: - in deep oak woods - 1 skin[♀], 1 skeleton[♀].

Lake Olomega Common in mixed growth.

V. de Santa Ana - Common in finca.

At camp, one ♂ always called from cypress hedges. - succession of 6-7 single notes on same pitch.

Chilata - Pairs along streams in Balsams.

Marshall, 1942

Geococcyx velox

Mt. Cacagnatique, Dept. Morazan, El Salvador

Jan 6. One flushed in cornfield (grown to weeds & vines) in bottom of canyon n of hacienda. Went into the tall grass along creek at bottom canyon.

Jan 9. A pair seen in arid type brush below limit of oaks on n. slope. - Rocky.

One taken ♀ 1766.

Jan 15 One seen below limit oaks in arid type brush (rocky) on s slope.

Taken: ♀ 1761.

Concl.: Arid type brush - 2 skins.

Los Eses miles, n. slope

Apr. 6 about 4500 ft. in brush dry & cleared field ♂ 2262 skel. * * * Noted in blackberry co. on n.e. slope.

Marshall, 1941-2

Otus trichopsis

Mt. Cacaguatigue, Dept. Morazan, El Salvador

Dec. 28
min

2 ♂'s coll. in same spot in finca, 1st from top of 6' post, 2nd from coffee bush - were very tame - almost brushed into the 2nd. Answered my hoots at dusk. Heard 2 - 1 higher than other which I thought was ♀ - but walked toward it & got ♂ #1621 which I almost hit with my face. The true ♀ may have been farther on, the ♂ not calling.

Jan 10, 1942
min

at dusk in grove of low oaks at edge of finca on west slope of summit called up pair - came in very quietly, ♂ called with excited, rhythmic type hoot ♀ with normal even hoots - shot ♂, later saw ♀ fly & coll. - both from oaks, But apparently came from the adjoining finca. Both of red phase - obviously a mated pair - nearing nesting time.

Jan 14
min

In finca about 9 a.m. while trying to attract birds around stuffed owl by giving Spotted Screech Owl notes, got a pair to answer my from shade trees along the road. ♂ called often with the rhythmic call. ♀ in a tree 25 yds away from ♂. ♂ finally flew out of dense foliage at top of tree & came on set wings right for me in steep glide - calling as he came. Then a sharp up swoop to light in coffee bush up a bank where collected. I didn't answer further. Same pair usually called up in same places - forage area is small.

Marshall, 1941-2

Otus trichopsis

Mt. Cacagnatigne

Dec 25-

Jan 16

Abundant - as many as 4 or 6 heard every time night hunted in finca only. The pair taken Jan 10 was the only record from oaks or growth outside of finca, but these were nt. on the edge of finca. Altho. I tried many times to call them up in all other types of native growth - oaks, pines, deep oak woods, etc. - they were never found there. But very abundant on finca. Would answer readily my imitated hoots at dusk, & would call when I gave Cicaba hoots later in night & often would answer Otus hoots also. Often heard calling in night of own accord - 1 ♂ on moonlit night & often single ♀s heard calling as I walked along trails in finca at night. Calls: 1.) 9-13 low whistle (as low as I can whistle distinctly) at even temp & pitch except that 1st may be a little higher or minor 3rd higher; 2.) one short note followed by (3) or usually 4 long notes, and repeated - given when birds more excited. Very rhythmic • - - - - • - - - - etc. ♀ a major 3rd or more above ♂ in pitch. ♀s much shyer - call less & can't approach. Foraging: watched on several occasions: sit right in coffee bush 6"-6' above ground - perch a while, look around, fly to another bush - perching often on little leafy twigs. Rapid flight. Mostly paired but 5 ♂s taken during course of 2 weeks from same spot. Usually call from coffee bushes - rarely in taller trees.

Marshall, 1942

Otus trichopsis

Los Esesmites

March 6 ♂ heard & attracted to us far down on a slope - no forest - all cleared - apparently lived in little group remaining pines & fruit trees around the farm house.

March 12 One heard in evening in oaks across cleared gulley from camp.

March 19 2 called up in daytime - called from lg. oaks left in 2nd growth area.

March 21 Pair ^{above} calls ^{very} early in evening when still light.

Later, answer only once & don't come in.

Finally got a ♂ 2145 on next ridge in a little remaining grove pines. High notes - am no longer sure about difference in pitch being con. with sex. (Young out by last wk March Stitt's specimens)

W. slope Los Esesmites

March 31 Very common in the Pinus coccarpa belt - several pairs heard & 2227 & 2228 taken when they came to my imitated Cryptoglossa notes. Perched in young pines & low in the oak where I was trying to sleep.

San Ignacio, 3000ft

April 6 1 heard in Pines in evening.

Marshall, 1942

Cryptoglaux ~~???~~ ridgwayi

Los Esesumles

March 21 Sturt coll. 2144 ♂ early in evening just after pr. Otus trichopsis began calling in 2nd growth timber on hill SE camp. Sturt was near top of ridge & in cleared field where 2nd growth starts as a wall of dense forest. Still very light - he heard Otus & tried to imitate them (his whistle very high) for about 4 min - then this owl came out of the woods & lit on bare branch low tree at edge then back into tree on another branch - made a low purring sound. Sturt thought it one of Otus which were still calling close by so he thought this bird was whistling. Shot it with half load - I came later & found it by igniting newspapers for light.

March 24 After dark was giving Cryptoglaux whistles (imitating Sturton's whistles which sounded like Cryptoglaux) up hill from camp on ridge where cloud forest on one side, young pines & brush in a ravine on other (s). After about 15 min. ~~the~~ got answer - series of whistles, each note distinct but not staccato - mellow whistle not loud nor inflected like Glaucopteryx. Gave one series of about 10 notes - I answered & it gave a series of rapid notes & Otus.

Marshall, 1942

Cryptoglanx ridgwayi

Los Esesumles

March 24 - Then gave slower series (a little slower than Glaucidium brasilianum) from middle branch of pine near me - I saw it in flashlight - white facial ²¹⁶⁶ areas prominent - & dropped it with 410.

Later in evening in cloud forest of highest s pk., heard another - gave only one series of calls - apparently was in denser, smaller trees in steeper ravine at edge cloud forest. Like the 1st, it answered only after I had been calling in same place for 15-25 min. In both cases I had also given Spotted Owl hoots.

W. slope Los Esesumles

March 31 Late at night as I was going to sleep heard 4 notes of pitch OK. for Cryptoglanx coming down in pitch & very "dreamy". I answered & several times heard a single high note right above me in the oak - also heard the bird alight. Then the damned screech owls came & there was a scuffle & I heard no more Cryptoglanx for a long time - then the same thing happened again. (A very slight possibility that it was an unknown note of Otus trichopsis because ^{they came very} _{close I gave it.}

Marshall, 1942

Strix fulvescens

Los Crescences

March 25 At dusk, was on logged off hill above main canyon, high on mt. Heard a pair from canyon of dense cloud forest farther n. Rollocking series of hoots in vivacious rhythm ----- or, ---; ---
♀ much higher than ♂. I answered & soon they were both calling near me. (but at long intervals). Presently one flew low thru the few remaining trees & alighted 10' high in little snag above fallen logs etc & I shot it with 6's. ♀ 2180 skel.

March 27 ♀ 2199 taken after dark in 1st patch cloud forest up main trail from camp. Hildebrand had heard one give one series of hoots there the previous evening. I gave hoots & walked up the trail - Presently 2 loud barks close at hand - rough awww awww descending inflection. I found a ~~little~~ little trail & got into cloud forest & called long time - moon now bright & saw shadow float across grd. at my ft. & stop. I shined light up & saw the bird on stub about 25 ft. up & shot. No shine at such close range.

Marshall, 1942

Strix fulvescens

Los Esesimiles

April 5 At night, ~~go~~ heard one from ^{2nd} ridge
n. camp - called it rather close - also
another farther down ridge. Variety
of call patterns - always in lively
rhythm & not as "barking" but more
musical & mellow than S. occident.

-----, or -----.

Marshall, 1941-2

Glauucidium brasiliense

Mt. Cacagnatigue

Dec 26 '41 ♂ 1605 taken from high in pine in finca. Came readily to imitated whistles. Called incessantly just after dark. Eye-shine (shot at long range) - yellow.

Jan 2 1664 ♂ see genl acct p. 12.

Jan 4 1679 ♂ " " " " 15.

Summary - occasional in finca - large forage area so not called up in same spots on different occasions. Perch high in finca shade trees - hard to shine unless at long range. Call an incessant long succession of staccato measured whistles with slight inflection - rapid but steady - quint, quint, quint, etc. When attracted close, or when starting to hoot, would be gruff & unmusical.

Marshall, 1941-2

Ciccaba virgata

Mt. Cacagnatine

Dec 25-
Jan 16

Common in finca shade trees and oaks - usually along ridges. Called mostly at moon-rise, ~~but 1st specimen~~ & would answer hoots only if could get close & after long time. Heard usually about 4 or 5 pairs in night's walk - a pair on every ridge or so.

Dec 29

♂ 1630 low notes eyesline pink - taken near summit of W ridge in dense oaks answered continually when finally got started.

Jan 7

♀ 1704 taken in low oak growth in dry east canyon - allowed close approach - good shine. Perched in interior parts of tree as did 1630. Notes very high - higher than I could get with falsetto.

Notes: / / /
whu - whoo, whoo, huh 1st & last heard only at close range. ♂ pitch & quality of ♂ spotted owl; ♀ very much higher & of squalling pinched quality. ♀ also gives a long descending rough note.

2nd Examined March 28
heard at moonlight.

Marshall, 1942

Bubo virginianus

W. slope. Los Esmeraldas

March 31

In pine belt $\frac{1}{2}$ way down mt., late
at night (full moon) heard calls
& called the owl to me (flushed
when I shined light & so I waited
until I saw the long ears & the
rotating head before ~~it~~ silhouetted
against the moonlight & shy before I
shot. Perched in the pines $\frac{1}{2}$ way
or more up. Called with double
note instead of usual single 2nd syll.

— — — — —
— — — — —

San Ignacio, 3000 ft.

April 6

One heard once in pines in early evening.

Marshall ¹⁹⁴¹⁻
1942

Caprimulgus vociferus

Mt. Cacaguateque

Jan 7⁴² Taken just after dusk on road east of finca
where cleared for new finca by skimming
as sat horiz. on horiz. log.

Jan 6⁴² Several heard late at night for a while
just as moon coming up.

Jan 10 Heard 2 at dusk at edge finca.

Jan 8 skinned 2 at dusk in semi-logged heavy
oak timber - high quirt, quirt - higher
but v quality to "gump" of poorwill.

Summary - Occasionally heard or seen
not in any particular ^{type of cover} place.

Lake Olomega

Jan 22 - Feb 24 Fairly common - seen as often as
night hawks - taken in trees along edge
cornfields (#1776), stump at edge reeds
edge lake (#1794), seen roosting in daytime &
foraging (2) at night in evening in trees in
narrow canyon above spring - skinned
at night in trees when hunting Cicada neglecta

None heard calling nor singing at any time

Los Eses miles

March 8 A pair, ^{2035, 2036} presumably resident race taken in
evening back of house - both in same little tree in
patch brush on cleared hillside. Forage flights out
& back to top or open branches - often same place.

Came to & answered imitated calls. Call note as above,
song: whip-poor-will - not clear whistle - ^{as if whistle & roll tongue} burr all way thru

Marshall, 1942

Cyrimolpus vociferus

Los Escamiles

March 9 1 flushed from fence rail (horiz) in daytime on summit - in, but on edge cloud forest.

March 10 Heard in a.m. (several) & evening around camp - probably in brush patches - call definitely not clear whistle - not like record (A.R. Brand) - Could be imitated by whistling whip poor-will & rolling-vibrating tongue at same time.

p.m. one shined on ground on ridge in cleared brushy blackberry fern area - coll. ♀ 2042 sitting on 2 pure white eggs on leafy ^{flat} area between some bushes - open on down-hill side for alighting.

March 23 ♀ 2154 taken edge 2nd growth forest & field on stump where seen evening of 21st & 22nd also. Giving only the "quiet" call.

March 28 ♂ 2165 taken at dusk from stump in clearing. Another shot - not saved - white throat.

March 31 Common in pines on w. slope. 2 taken came up while I was giving owl calls. Were calling all night - full moon.

Marshall, 1942

Chordeiles acutipennis

Lake Okechobee

Los Eses miles

March 22 One this sp? flew over canyon in evening
very windy.

- See "C. virginianus"

April 1 5 or 6 foraging in & over pines
at dawn $\frac{1}{2}$ -way down W slope.

Took 2 2229 ♂ & 2230 ♀.

April 6 2 foraging very high over pine co.
at dusk.

Marshall, 1942

Chordeiles virginianus Probably
acutipennis

Los Esesmites

March 22 (see C. acutipennis)

March 28 1 fluttered over trees on ridge of cloud forest p.m. this sp. probably.

March 29 At least 2 & probably 4 or 5 soaring & fluttering over tops cloud forest oaks on ridge back camp in ^{late} evening. Definite beats or circuits - getting insects which were buzzing ⁱⁿ ~~over~~ treetops.

March 30 None in above place tonight.

Marshall, 1942

Acanantes sapatis

Los Esomiles

March 19 A pair seen today - low over bare ridge -
chased each other around - came very
close - could see white rump patches.

March 29 1 on bare ridge today.

Marshall ¹⁹⁴¹⁻
1942

Streptoprocne zonaris

Mt. Cacaguatigue

Dec 25-Jan 6 Seen about every other day - especially on cloudy days - usually only above the highest peaks but on some days the whole flock would hawk around over the finca & coffee-drying grounds some coming down within 200'. On summit-flock would turn up suddenly about every half hour - coming in rapidly from north east - would circle & rise above the steep south cliff where probably up-current of air. Then would break up into smaller bands which would make off in different directions or hawk about higher & higher. Small groups would come whistling ^{down} over the ridge occasionally - when going down - wings would shriek. Twittering notes often given. On days when seen over the hacienda (around noon) the whole sky would be filled with swifts - very loose flock & covering immense territory - yet would all show up or leave at about same time so that 1 min. would see swifts in every direction, next min. only 1 or 2 just leaving. (No specimens.)

121

Marshall, 1942

Archulochus colubris

Mt. Cacagnatze

Jan 14 '42 ♀ 1755 taken at summit ridge where
humid type brush & many flowers - ~~only~~
far outnumbered by Hylacharis.

Jan 15 Immense numbers in cold type brush on
steep south slope of mt. where many flowers.
Apparently restricted to this type cover.

Marshall, 1942

Calothorax lucifer

Los Escamiles

March 21 ♀ 2136 taken in am from blackberry thickets
in draw near camp. Was perched motionless -
had been ^{mingling} with Hylodanais etc.

March 26 ♀ 2190 taken perched in middle patch
blackberries on n.e. ^{slope} open country.

Marshall, 1942

Lamprolaima rhamis

Los Esmeriles

March 11 ♂ 2052 taken at dusk after came swiftly to roost in top foliage 60' tree edge cloud forest on ridge.

March 23 ♀ 2150 taken from many birds which came around owl in open space on ridge cloud forest. Perched high above owl near edge cloud forest. Same ridge 100 yds from where ♂ 2052 taken.

Marshall, 1942

Eugenes fulgens

Los Esmeraldas

March 23 2149 ♂(im) taken as perched on twig dead
cloud forest oak in area being logged.

Marshall, 1941

Saucerottia devillei ?
Hummer ~~color~~ with white throat

mt. Cacagnatigue

Dec. 27 ♀ 1606 taken from coffee shade tree near
hacienda in early morning when giving
series of ^{single} regular, measured, loud sparrow-like
"chip" calls from top twig.

Marshall, 1942

Amazilia ? sm. rufous hummer

Int. Cacagnatigue

Jan. 13

Several in coffee bushes & lower deciduous trees around hacienda where heard low buzz (drone ~ bumblebee) & insect-like "chips". coll. #179 one as gave these "chip" notes from coffee bush. This is only time seen.

Marshall, 1941 - 2

Hylocharis leucotis pygmaea

Dec. 25
min

Mt. Cacaguatique, Dept. Morazan, El. Salvador
Abundant especially along boundary betw.
finca & edge forest. While flying & perched
gives series of explosive calls - clicks
almost rattle. ^{Saw} Coll. a male which was
singing pu-seek, pu-seek pu-seek pu-seek
Taking about 2.5 sec. Coll. ♂, testes rather
large. ∴ singing & gonads indicate still
breeding.

Jan 15
min

♂ 1760 taken in thin low oak growth on
east ridge where a "pocket" of these
hummers - all ♂'s chasing each other &
giving only the "seek" call.

Dec. 25 - Jan 16
min

Summary: Abundant but not evenly
distributed - in certain places along edge of
finca & oaks would hear ♂'s singing
every time passed ~~that~~ those spots - In
"pockets" here & there as in humid brush
at top of ridge, in thin oaks Jan 15.
Here there would be many in a group.

1st 2 weeks ♂'s were ~~still~~ still giving
full song - later not singing or giving
only last syllable.

Marshall, 1942

Lempornis amythetinus

Los Eses miles

April 4

♂ 2251 skel taken in mixed brush
near stream in opening in cloud forest.
loud notes.

Marshall, 1942

Campylopterus hemileucurus

Mt. Cacagnatigue

Jan 16 ¹⁹⁴² ♂ 1764 taken as hovered in front of
bunch ripe bananas & blossoms apparently
getting insects attracted to fruit. In
banana grove in bottom of deep cold
canyon n-e hacienda.

Marshall, 1942

forked-tailed hummer

mt. Cacagnatigue

Jan 10

Early a.m. 2 seen in top dead deciduous tree 20' high ♂ 1722 taken as gave rapid call notes. Had been chasing other around apparently displaying.

Marshall, 1941-2

Trogon violaceus

Mt. Cacaquatigue

Dec 25-Jan 16 fairly common but not seen regularly.
Often heard giving succession of low
single whistles. Most often found in
oaks over cleared ground around
edges of finca. Very rapid forage flight
looked as if flycatching but actually
probably picking off berries. Usually
rather high in trees. ♀ rarely seen.

Marshall, 1941-2

Trogon elegans

Mt. Cacaguetique

Dec. 30 Harsh calls heard in ravine in oak growth on east slope & saw a pair. ♂ collected as foraged in low bushes & fallen branches.

Jan 15 One shot at in dense oaks on top east peak. Perch in typical trogon posture: tail vertically down body almost upright sit very still. except short rapid flights with loud wing-beats.

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Marshall, 1942

Pharomacrus mocinno

Los Cresniles

March 7 2033 taken by Stinton in cloud forest 'dense' on highest summit - one more seen.

March 9 2036-8 taken by Stinton & myself same place as above. loud calls & great variety - a high whee-oo, 2-syll. harsh call & red trogon, others - single, etc. Rapid ^{dot} flights from perch to perch - high or $\frac{1}{2}$ way up in trees - came readily to imitated calls. Perch erect, long tail str. down - motionless when perched. At least 3 - not staying close together but within call. Farther down - several heard giving flicker-like & other calls in next to lowest area cloud forest on a slope. Tail & hanging cacti & other plants. also wing coverts - well concealed.

March 15 2 heard, 1 seen in cloud forest trees - came to imit. call - whistle whe-chew.

March 17 1 making of racket, variety calls - cu-cu-cu etc in canyon back camp at lowest remaining cloud forest here.

Marshall, 1941-2

Momotus lessoni

Mt. Caraquetigue

Dec 25-Jan 16 Seen occasionally & heard often in
finca where patches of original oak
cover remaining. 2 usually seen together.
High in trees & usually well concealed.
Tail not held at L always straight down.
Note heard in early a.m. wook, wook;
- - wook, wook; - - - etc.

Marshall, 1942

Aspatha gularis

Los Esmeriles

March 12

In am - about 8 o'clock heard note:
coo-lick 2nd syll higher - easily imitated
by very low full whistle on ridge at
lower level cloud forest where few lg. oaks,
much small trees & high 20-30' bushes.
Another from across canyon answered
& country. Tried to stalk orig. caller
in the ~~medium~~^{dense} bushes - could get very
close but couldn't see - kept calling
in answer to me - 3 times, saw it
move - couldn't see a bird at all - even
tho close - just something moving for instant.
2056 ^(another) coll. came to edge brush & sat quietly
watching me. Other call ^{rapid long} series of
above but 2nd syll. slighted. Carries long
dist. 1st call may be only of 1st syll &
popping out.

P.m. At dusk - I gave the call & got
3 answers - one near me in medium trees
& brush within edge cloud forest, ~~another~~ others
prob. same as heard in am - same
resp. places - all 3 calls heard. Coll nearest -
~~apparently foraging in crepuscular.~~
~~foraging~~ calling for long time then quick flights.
could see only when flying - finally came
close & I coll. as it sat still in
lower brush (within) under cloud forest #2068.
One of others heard ~~after~~ when almost dark!

Marshall, 1942

Aspatha gularis

Los Esmerales

March 14 3 heard at dusk on ridge - young pines & 30' high ^{dense} deciduous trees. All within about 30 yards. Always perched in middles of trees - difference in pitch 1 or 2 steps. Mostly single syll. call - very much like a hoost. Sit very still while call - & within trees. 2084 coll - after I watched it make a rapid forage flight out after insect (stom & throat contents: beetles) & return to same perch ~ Otus flammeus. Almost dark - all stopped calling at dark.

March 17 Heard in cloud forest also today. Much noise at dusk in canyon in " " back camp.

March 19 am. on 2nd growth hill across from camp where a few cloud forest oaks left - much small decid. growth 20-30' high & dense. Heard 3 - came near while birds calling around owl. Shot 2 2124 ad & 2125 ♂ not together but both came in & sat quietly half-way up in & in interior trees.

Marshall, 1941-2

Aulacorhynchus prasinus

Mt. Cacaguatigue

Dec 25-Jan 16 Not common, but groups of 5-6 seen every time I passed certain spots in the finca. Where would be with mixed flocks of jays, orioles, etc. - Just 2 of these groups in finca & these are the groups from which specimens taken. Jan 15 one heard in dense oaks at top east peak giving unusual deer notes. Other note usually heard: a low tone like blowing into a bottle. Very hard to see when perch - blend with foliage & stay very still. fly out of back side of trees. Seen usually in upper part of trees & all except once (Jan 15) in ~~oak~~ finca. Perch with bill horiz., body bent forward, tail drooping.

Los Esesimiles

March 14 2086 coll. M.H. in dense cloud forest.

* * * Heard almost every day & seen occasionally - in groups 3 or more - gt. variety calls - in cloud forest or edges thereof.

March 24 ♀ 2162 taken in cloud forest. These birds work high in trees - much noise & come around & squawk when I give owl calls.

Marshall, 1942

Colaptes mexicanoides

Los Escamiles

March 10 Pair taken by Joe Sykes 2043 & 2044
feeding on sides of stumps (burned)
in cleared area near camp.

March 12 2067 ♀ taken as called (single notes - not ~
C. cafer) near top oak on brushy ridge below
edge cloud forest.

March 26 ♂ 2191 taken atop resting stub
(where ♂ & ♀ seen on previous occasion)
in cleared blackberry co. on N.E. slope.

April 1 Common in pines 1/2 way down W. slope
where several pairs seen & ♂ 2247
taken as foraged on yud. at base pine.

Marshall, 1941-2

Ceophloeus lineatus

mt. Cacagnatique

Dec 25-Jan 16 Common in finca & in oaks being cleared for finca - Almost always found with large mixed flocks of jays & orioles. On Jan 3 there were 5 or 6 in the same flock - on this day, also, one ♀ 1670 taken from low dead oak on ridge where very scrubby oak growth.

Jan 16 am. one watched drumming on finca shade tree at camp. - long rolling drum. Usually more than one seen at a time - usually 3 or 4. Work in finca shade trees - not seen on down stuff. Calls - 1 a flicker-like wick-wick-wick - but louder.

Marshall, 1941-2

Centurus aurifrons

Mt. Cacaguatigue

Dec. 25-Jan 16

Abundant in finca where works in finca shade trees also in oaks & in snags in cleared off areas where new coffee being planted & at edge finca - mostly in finca itself. Call: chuck, chuck - etc. Usually found in the mixed flocks of jay & oriole.

Marshall, ¹⁹⁴¹⁻1942

Picus rubiginosus

mt. Cacaguatigue

Dec. 25 Jan 16

Common in denser stands of small oaks and in finca shade trees. Notes v flicker - long rolling wick-wick-wick - higher & faster than flicker, also single loud clear keeeerr but higher than flicker. Usually found working on very small twigs, would crawl all around them upside-down, etc. Often working on same limbs with Balanosphyra.

Marshall, ¹⁹⁴¹⁻1942

Balanosphyra formicivora

Mt. Cacaguatigue

Dec. 25-Jan 16 Abundant in ^{about} 5 places in the area: i.e. in colonies of ¹⁰⁻25 or more. 2 "colonies" in oaks at edge of finca where dead snags left & oaks rather open - would work out into finca a little, 2 in 2 places where oaks entirely cleared for coffee planting & many snags left, 1 in area n. of hacienda where giant oak forest had been greatly thinned. Usually a large dead tree would be the headquarters for a group - several birds always seen on it. In clearing with snags n. hacienda, often seen flying from clearing into adjacent oak woods (thinned) & back - also fly-catching from high on these snags.

Los Esmeriles

March 17 1 seen on stump in brush area on summit divide - near oaks on east exposure - limit of cloud forest. Have been seen on other days on dead snags at below level existing cloud forest.

Marshall, 1941-2

Sphyrapicus varius

Mt. Cacagnatige

Dec. 25-Jan 16 Often ^{Occasionally} seen in semi-cleared oaks (both scrubby type & giant cleared forest) and in places in finca where some native trees left (in pines). The least common woodpecker in the area. A total of 5 birds seen in the whole time.

Los Esesniles

March 15 Im. noted working on sapling in cloud forest.

Dryot Marshall, 1942

Dryobates villosus

Los Esesmites

March 11 ♀ taken from large dead orchid oak at edge cloud forest (brush beyond) - right next to another (♂?) prob. a pair. Working on trunk among epiphytes. Had heard "pic" call - (♂ trill from camp)

March 13 ♂ 2071 taken as drummed - very short, light roll - high on dead branch (vert.) of orchid oak at edge cloud forest where " " not as dense. Others drumming in vicinity - ~~♂~~

Marshall, 1941-2

Phloeceastes guatemalensis

Mt. Cacaguatigue

Dec. 25 - Jan 16 Rather common but outnumbered
by Ceophloeus. In early a.m. several
would be heard drumming - only 2
beats one short & one long. ta, ta.
Very close together. Found in finca in
places where large shade trees & dead
snags and in semi-cleared giant
oak forest n. hacienda. Not seen working
on down logs.

Marshall, 1941-2

Dendrocolaptes certhia

Mt. Cacagnatigue

Dec. 27 '41 One taken #16079 from dense shady grove oaks near summit of east peak.

Working up clear trunks of larger trees.

Jan 10 '42 4? seen (2 pairs together?) 2 coll.

by Davis. in open stand oaks on east ridge. Wary - working close to ground - get up about 10 ft then fly to next tree.

The least common woodhewer in the region.

Marshall, 1942

Xiphorhynchus flavigaster

Mt. Cacagnatique

Dec. 25-Jan 16 Abundant in throughout in broad-
leafed trees. Especially in oaks around
edge finca & in patches of native
trees within finca but also in
finca shade trees & large oak forest.
Usually in pairs. Loud calls redwoodpecker.
Flies wing & creeper as climbs trunks
of trees. Also works out smaller branches.

Marshall, 1942

Xiphocolaptes promeropygus

Mt. Caraque

Dec. 25-Jan 6 Common in ^{denser} ~~all~~ types oak growth
and less so in finer shade trees.

Sometimes seen on ground at base tree.

Works in typical creeper fashion - flicks
wings - doesn't spiral regularly around
trunk.

Marshall, 1942

Lepidocolaptes (Picolaptes) leucogaster?

Los Eses miles, Dept. Chalatenango, El Salvador

March 13 ♀ 2073 taken as ~~climbed~~^{climbed} from base to 8' up sapling under dense cloudforest - brush understory - had heard 2 - & saw 2 at 1st apparently a pair. Attracted to them by unusual note: hen-like "cut-uck" I thought a woodpecker or flicker sound. Flicked wings & creeps. Taken in a.m. clear day - no wind in patch cloud forest near camp.

March 14 Heard above call in semidecared - 2nd growth
Appears to be call } cloud forest on hillside across canyon from
of } camp - apparently in one of the 3 or 4 young pines.
Thryothorus } Couldn't see them → No! is probably Heinicorona
modestus - heard in this place 19th & 20th. Not
same as call heard March 13.

March 20 Worked same place as 13th long time without seeing or hearing any more.

March 30 ♂ 2213 taken on ridge near where 2073 taken. Flew thru cloud forest & lit on slender tall tree at edge where coll. L. affinis calling in vicinity.

Marshall, 1941-2

Lepidocolaptes affinis

Mt. Caraguatigne

Dec 25-Jan 16 Abundant in dense groves of moderate sized oaks as on flanks of east ridge where pairs or groups of 4 or 5 seen & always giving high shrill creeper-like ~~sp~~ squeals (but very loud). Could sometimes attract by imitation of call. Jan 2 (see pg. 10 gent out) a pair - chasing each other around. Also found in finca & around edges of finca & in dense stands of giant oaks. Worked high in oaks & on small branches - flicked wings

March 25 Los Csesmiles

♀ 2175 taken as worked up slender young oak in cloud forest.

March 30 2212 ♂ taken in cloud forest - was giving char. high squealing call - working above only on slender young trees which have no marks of orchids to interfere with climbing up trunk. Have heard the calls frequently from trees at edge of cloud forest in certain place near camp - every night.

Marshall, 1942

Automolus veraepacis

Los Esmeriles

March 24 Sunny early am. heard whistle with "subpassarine" quality (wooden) upward inflection in groups of 3 whee-ee, whee-ee ~~whee-ee~~ from semi-logged ridge to s.e. Very loud & heard from long distance. ^{hears} ke-ee, ke-ee, ke-ee. Starts 3 octaves above lowest note I can whistle. Walked along ridge, answering it. Finally saw it hopping in a bush at side trail (in tree 15' high) & shot into the crown foliage & took it ♂ 2158. That heard another going down hill - may have been a pair.

March 26 Heard one at dark in bushes on ridge of cloud forest back camp.

March 27 Foggy - 2 calling from across canyon new camp. When I crossed they would stop. Wouldn't answer me well, but when I would call, other would answer from far up canyon. Moved around a lot.

March 28 Same place as yesterday none heard.

March 29 Hildebrand saw one foraging in bush at side slide at dusk where he hunts bats - said it made a guttural purring or rolling sound (trill but not musical).

March 30 Early am. went to Milt's slide & heard the trill from bird working edge slide & shot it

Marshall, 1942

Automolus veraepacis

Los Esmeriles

March 30 at long range ^{♀ 2205 skel (& skin)} as it hopped about in logs & bushes. Later 3 more heard

At giving whistle - even far apart all in edge cloud forest & when I called would give descending plaintive whistles so I think it is this bird that gives the ^{high} kew, kew, ^{very low} whistle.

I saw one in flight in high cloud forest oaks - It gave a purr-r-r w. tanager then lit & gave the descending whistles. Looked large & reddish. Not certain yet, but I have heard this whistle from same bushes where moments before Automolus has given the loud whistles described earlier. ^{Hildebrand saw another at dusk at same place where 2205 taken.}

March 31 several heard in cloud forest (lower edge) sw slope at dusk.

Apr. 6 In am. (rather late & sunny day) heard calls ^{within} at edge 1st patch cloud forest. (flew across ridge & into tree!) up main trail from camp. I approached it & got very close but could never see it as its calls came from ^{low} ground or bushes (underbrush of cloud forest) nor did I hear its movements in leaves & twigs. I sat down above a bank in cloud forest & this bird called occasionally from all around me as I foraged. Saw it working (just twig moving) underneath mats

Marshall, 1942

Antonothus veraepais

Los Escamiles

Apr. 6. of roots overhanging the bank. Worked with no sound at all. Flew low & rapidly into some brush where I shot at it as perched tail low - body horiz^{on} - red tail conspic in a little shaft sunlight. But it flew while I was pulling trigger - gave alarm not - c-i-r-r-r-r-r-r-r or p-r-r-r-r-r-r-r for a while - in next 45 min - foraged around same area, had 2 more calling spells - never could see it. If it called - I could prolong calling by answering, but it ~~didn't~~ wouldn't answer me at starting from scratch.

Marshall, 1942

Pachyrhamphus major

Mt. Cacagnatigne

Jan. 6
1942

♀ 1689 taken early am. from low
green deciduous tree ^{in finca} where sitting upright.)
flycatcher style & making short flights -
moving from perch to perch ~ flycatcher.
Was with large mixed flock orioles,
jays, etc. Small: leaf-hoppers.

Marshall, 1941-2

Tityra semifasciata

Mt. Cacaguatigue

Dec. 25-Jan 16 Common - in small flocks 6-10 birds. Harsh squawks. chase each other a lot. Found most often in medium sized oaks on east & south-facing ridges but also in finca & especially where snags or ^{patches} original trees remaining - in finca - usually with large mixed flocks. Foraging? - seem to hop around in oak foliage. Perch in conspicuous places - high in snags, etc - loud calls. Flocks rove over a wide area - Not seen same place successive days.

Marshall, 1941-2

Tyrannus verticalis

Mt. Cacaguetique

Dec. 25-Jan 16. Loose flocks of 6-25 indiv.

often seen n. hacienda where clearings with tall snags - many birds in same tree. Would go out after flies. Sometimes whole flock would get away & fly south.

Jan 9 Flock in few trees in arid type brush low on north slope.

Not noisy at all - just occasional "hip hip." More or less organized as flock - always a few birds in snags in the clearing.

Marshall, ¹⁹⁴¹⁻1942

Megascops pitangus

Mt. Cacaguatigue

Dec. 25-Jan 16 Common but a fluctuating population. Last 2 weeks few seen. except for Jan 9 when flock of 4 or 5 found in a finca far down on n. slope (lower edge oaks). 1st 2 weeks many heard & seen - loud calls in oaks & snags around edge finca & in snags & shade-trees within finca. Usually 2 or more (paired?) & chasing each other around. Not very active - do a lot of sitting & calling - flycatching flight rarely seen. Usually fairly high in trees. Only in open ~~can~~ growth - around edges of open spaces.

Marshall, 1941-2

Myiarchus tuberculifer

Mt. Caraguatigue

Dec 25-Jan 16 Almost always paired - abundant everywhere where there were trees. Often sat in top coffee bushes. Common in heaviest oak timber & in finca & oaks clear to summit. Calls: 1 a rattly trill 2 a low whistle 1st rising, then falling inflection like a guy whistling at a dame. One of most common birds. Lake Olomega.

Los Esesmes

March 29 1 pair only seen or heard on NE side mt. - in canyon n camp where pines & oaks & much low growth. Both taken but only ♀ 2204 saved.

Marshall, 1942

Nuttallornis borealis

mt. Cacaguatigue

Jan 3 fm ♀ 1665 taken from top of dead tree in cleared area near forest of large oaks. I had heard the "pil-pil-pil" notes just prior to seeing the bird - perched upright. Shot it with full load 6's by mistake.

Los Esmerales

April 4 fm ♂ 2258 taken from top dead tree on ridge - edge cloud forest. No calls.

April 6 fm ♀ 2259 taken from top w slope high on exposed twig of huge pine - open pine & grassland. No calls.

Marshall, 1942

Migrocharnes uriens

Los Esmerales

March 24 - heard familiar plaintive faint peee
(not the loud harsh call, but the meditative one)
of M. richardsoni ♀ took the bird from
dead ~~of~~ branch oak edge cloud forest.

March 25 Saw one Top dead tree in sparse cloud
forest edge slide - gave above call & foraged
always from same perch - didn't shoot because
would have been diff. to find.

April 1 On w. slope 1 giving same call &
foraging from top little pine in brushland
Couldn't find it when I shot.

Apr. 6 Heard same note in patch mixed oaks &
pine near pass. Was foraging from top
dead orchid oak - I shot as it
flew out after insect but it dropped
into orchids on another branch.

Cerro del Aguila, 5600 ft., Dept. Santa Ana

Apr. 12 2289 sitting on dead twig cloud forest
oak in semi-cleared area. Looked darker
& less unicolor than all previous - looked
like miniature Nuttallornis.

Marshall, 1941-2

Megiochanes cinereus

~~Mt. Caca~~ Goteira, 700 ft., Dept. Morazan, El Salvador

Dec. 24 Coll. ♀ 1588 with sling shot from bush under trees along stream.

Dec. Jan. 1942 Several heard & seen along road to Goteira in afternoon when we were moving camp from Cacaguatigue.

Fairly common - canary-like trill heard every 100 yds.

Lake Olomega, 200 ft., Dept. San Miguel, El Salvador

Feb. 24 In evening a little after sunset I was hiking up a long wooded canyon to owl hunt & heard many of these birds - always 2 together, then another 2 in the next 50-75 yards - at this time of evening the only bird calling ∴ conspicuous whereas had been overlooked in daytime hunting prior to this. Canary-like trill diagnostic altho similar to that of Tyrannus melancholicus is higher & more tinkling. Were very active - calling & making forage flights from high in trees - chasing each other around.

Marshall, 1941-2

Myiochanes pertinax

Mt. Cacagnatigue

Dec 25-Jan 16 fairly common in finca, clearings near woods where snags standing and in partly cleared groves of large oaks.

Often Sat high on snags or trees - sometimes lower - even on ^{pen pen pen (French)} coffee bushes. Call the pil pil pil of Nuttallornis but more of a whistle - easily imitated & birds would answer excitedly but not come closer. Calling a great deal at dusk from snags in finca.

Found in a finca in canyon at 3500 ft. - Apparently well-distributed in wooded portion of mt. but widely scattered - individuals far apart (beyond hearing distance.) Crest rather conspicuous in life.

Los Esesmiles

March 12 One heard & watched foraging in middle parts oaks on hillside below cloud forest.

April 6 Common in pines down on W slope at 5000 ft. (not higher.)

Marshall, 1941-2

Empidonax hammondi etc

Mt. Cacaguatigue

Dec. 25-Jan 16 common in finca where foraged from lower parts of shade trees. Often with warbler flocks. Many Empidonaxes in groves of small oaks on east ridge. The whist of hammondi the most frequent note - another heard - vireo (least flycatcher?) but not coll.

Empidonaxes common in mixed flocks warblers & tanagers along summit.

Jan 10 One taken at dusk in humid type brush (look like willow thickets) on west summit.

Los Eses miles

March 23 ♂ 2148 taken from half-way up cloud forest tree - giving "whist" note - with E. flavescens. Many heard today, came to owl etc - common high in trees along edge cloud forest & in 2nd growth area. Heard one give peet, peet, peet-trick note.

March 24 ♀ 2163 taken from near top oak edge cloud forest calling.

March 25 2168 & 2172 attracted to owl - one in pine on 2nd growth hill, other in open cloud forest on edge slope. - Very common esp. in ^{young} pines of thin woods around edges of cloud forest -

Marshall, 1942

Empidonax ~~flavescens~~ flavescens

Los Esosmiles
in

March 21 2137 - 2139

(2137 & 2139 apparently a pair)

taken in cloud forest trees along ridge back camp.
♂'s imm. but - apparently getting ready to breed -
seem paired. Not at all like E. difficilis in
note or habitat - except the ~~one~~ common note:
"seep" ~ to letter. But also gives very penetrating
"whieee" very high & sharp - distinctive. Heard one
give a few little notes of a song piddi-sie, twit.
heard rarely. Forage very high in light-green,
spreading cloud forest trees - 2 every 50 yards -
very common. Rarely come low. Not along stream -
in regular woods. Many have been shot at in
2nd growth on hill SE camp. Some come low.
Very wary & hard to get - 9 so far have been
shot at & they always make a darting
flight before dying.

March 23 2147 ♀ taken same place as above - came low
in dense young oaks. E. hammondi in same tree.

March 25 ♂ 2167 & ♀ 2171 skel, a pair, taken on 2nd growth
cloud forest hill where foraging low.

March 26 ♂ 2189 taken from low bush in semi-cleared
open cloud forest. Common here.

- These are active very late in evening -
when their call sounds like the clip of a
bat - saw one silhouetted in cloud forest oak when
almost dark.

Marshall, 1942

Empidonax flavescens

Cerro del Aguila, 5600 ft., Dept. Santa Ana

April 12 - common in cloud forest. 2290

taken there from 12' above ground in sm. tree.
Flutters wings when alights v other Emps.

Marshall, 1942

Empidonax fulvifrons

Los Esmeriles, w. slope, Dept Chaltén

April 1 3 taken but 1 lost, 2231 ♂ + 2232 ♂ skel (very worn plumage) in grass & low bushes under pines - note not v other Emp. at sharp "pit". Flutter in very close to ground - that warblers or sparrows at 1st.

April 6 2260 ♂ taken & several more heard & seen this time calling & foraging high in pines.

Marshall, 194~~2~~-2 1942

~~Empidonax~~? Elania obscura

Mt. Cacaguatigue

Jan 2 ♂ 1661 coll. from lower in low deciduous tree at edge finca on ridge of summit. Foraging rapidly ~ Empidonax.

Jan 14 ♀ 1754 taken in humid type bush on west summit where attracted with other birds to stuffed owl. Was sitting low in a bush 2' from ground.

Jan 17 Taken (♂ 1767 skeleton?) from finca shade tree on summit where foraging with Empidonaxes, warblers, tanagers.

Los Esmeriles

March 13 2076 taken in bush at camp by Davis.

March 14 2083 flushed from bush edge cleared hillside 2' from ground - at nest? Common - seen every day so far - today in more open cloud forest where white pines - usually in open co. - bushes in clearings & edge cloud forest. Heard song today. Call ~ Wood Pewee but weaker & short.

March 15 Abundant even in densest cloud forest - call heard all day.

March 16 2105 ♂ taken as bathed at spring at camp.

March 17 Heard singing today - esp. when 2 close together. Always perch at L not upright as Woodpewee.

March 29 Very early am. before full light - sing for about 20 min - 1/2 hr. perched low or in crown of trees & give little button-vireo-like note Tsuee-ahzee 1 per sec continually & steadily.

Marshall, 1942

Notiochelidon pileata

Los Eses miles

March 12 5 perched in top dead orchid oak on twigs about 200' up on canyon side at lower limit cloud forest. Twittering - sounded like bunch goldfinches in a tree. Also "prrrrrit" & rough-wing (I thot they might be that) - were sitting - shaking wings etc (sunny). Got 2 with one full load 10's. - This is the bird which I have seen every day thus far - & seen again today - always 2 - 5 or 6 together hawking about over bare ridges & out over canyons also over canyons of cloud forest. Call a "prrrrrit" somewhat & rough-wing but faster roll almost a buzz & sharper almost "bzzzeet". Usually alone - with violet greens only by chance. Flight somewhat & rough-wing - much coasting with occasional single beats but always very swift. When beats wings - very rapid - swift-like. Resident? - to be seen.

March 14 ♀ 2077 taken from flock 5 or 6 hawking over bare canyon ridge - seen every day so far.

March 21 Singing - a few little warbles - pairs & group of 6 seen.

March 29 ♂ in 2201 taken as ^{flock of 100 or more} ^{would cross ridge flying very low} several foraged over ridge, ~~below~~ camp.

March 30 ♀ 2207 shel " " foraged with several over ridge below camp.

March 31 Huge flock found to have H.Q. in ^{head of} 5-facing canyon higher up mt. several 100. Perched in top low dead tree. Foraged low over cleared ridge 2217^{shel} - 2219

Marshall, 1941-2

Tachycineta thalassina

Mt. Cacagnatigue

Dec. 24 1589 picked up at side road in oak-grown canyon on east flank mt.

Jan. 9 Flock flying over arid type brush below 3500 ft. on n. slope (below level of oaks).

Jan. 15 Flock foraging over arid type brush (below level of oaks) on south slope.

Jan. 17 Flock at a divide between 2 east ridges of Cacagnatigue - the only time seen above arid lower tropical zone.

Los Erasmiles

Flocks seen 1st 2 weeks of camp. ^{1st part of March.}

1942, Marshall

Cyanocitta stelleri

Los Esesumiles

March 8 2034 Taken from little lone cypress above a patch of brush in cleared area (next to our house). Was with 5 or 6 Cissilopha melanocyanea which were down in the brush. Its call was not familiar but was resolvable into the Red-tailed Hawk call of frontalis — 2-300 yards away from forest!

w. slope Los Esesumiles

April 1 Common in pines where behaved more as would expect this sp. — climbing around trunk upward on ^(ladder) twigs of pines etc — calls v. Took ♂'s 2243 & 2244. [Stirt's specimen came from brush in canyon not near cloud forest.]

Marshall, 1942

Cyanolyca pumila

Loa Eresmiles

March 25 ♂ 2179 taken in evening in area dense humid type brush (vines etc) high on mt. in canyon of prime stream. Flushed 2 as came around bend of trail - saw same or 2 more perched in dense low trees above brush & shot one. None made a sound.

March 26 ♀ 2181 shel. Taken by Stief. near above place - also in dense brush also silent.

March 31 On ridge of cloud forest heard peculiar plaintive long whistles - I gave owl calls & finally got jays around me - after a long time they came in readily & looked about for owls. They had gt. variety of rather weak calls. Took 2 juvs - 2222 & 2223 shel ♂. Another got away - must have been 5 or 6 altogether. Were in cloud forest trees & came into lower dense trees & brush around me.

Marshall, 1942

Aphelocoma unicolor

Los Escudales

March 17 2108-2110 coll. M. Hildebrand a midday on cleared ridge (blackberries & ferns). A flock of 6-8 calling loudly quite ~ A. calif. & same undulating flight - flying from smaller trees edge ridge (edge cloud forest on n. slope) across clear to ^{space} pines etc. & back again. Were very conspic. & easy to get.

March 25 2176-8 taken from flock of about 6 which orig. in cloud forest - came to my Strip hoots. Call harsh deep single (or 2) note imit by whistle + voice. Trilled out to edge cloud forest - flight in deep undulations - would alight & call then leap into concealed place (high in trees) & be impossible to find for 10-15 min until call & fly again. One presently seen in lone dead short pine on ridge away from forest where sitting in full view. Others heard later in this cleared area after I shot - ∴ not necessarily in dense cloud forest.

Marshall, 1941-2


Cissilopha melanocyanea


mt. Cucagnatigue

Dec. 24-Jan 16 Abundant, in flocks of 20 or more throughout finca. Dec. 24 - jays only in a flock in oaks on east slope.

Jan 14 Flock of jays only working up densely wooded humid canyon near summit came around my stuffed owl & squawked. ~~many~~ Rest of time always accompanied by orioles, tanagers, warblers, woodpeckers, woodhewers, etc.

Cissilopha always seemed to be the basis of a flock & lead the way. Pass them about the same ground every day, i.e. each late afternoon a flock would pass by the hacienda & eat kitchen scraps. Mostly in finca, but cross areas of oaks also. Always in trees except when foraging on ground under coffee bushes - many at a time scratching in leaves with loud rustling of leaves. Very curious - will come to a squeak or owl call but soon pass by. Uncertain how far a given flock roams in a day - possibly stay in a given canyon & both slopes. Usually in finca.

Jan 6 - Mating display seen - 2 birds side-by-side - one perched normally, the other with neck straight up, body vertical, bill horiz. & feathers of crown expanded into crest. 

Jan 10 Roosting in dense humid type brush on  summit.

Marshall, 1942

Cissilopha melanocyanea

Los Esesmites

March 25 2169 ♂ & 2170 ♀ skel. Attracted to owl
in 2nd growth hill. Here flock generally
seen - ~~at~~ works from canyon of this hill
over top ^{flying} Casahuate brush to pines & down
low tree growth in ravines on other side.

Apr. 1 Heard from canyons on W slope.

Marshall, 1941-2

Corvus corax

Mt. Cacagnatigue

Dec. 30 Flock of 6 or 7 calling flew around easternmost ridge.

Jan 6. 2 perched at noon close together on top dead snag in clearing n. hacienda. Stuit & I both shot & I got one.

Summary: heard or seen about every other day - singly or in pairs or flocks of 4 or 5 - especially from summit. Only twice seen perched - & then in dead snags of clearing.

Would answer imitated caws but wouldn't come close. Didn't see them forage - always appeared to be in transit.

Los Eses miles

March 14 Common here - seen every day in 2's or 3's.

This am - clear calm 2 came down mt. at gt. height following ridge - long gliding swoop then up, then turn on back, coast down, turn over again, caw & take another long glide. Stayed about 10 yds apart. Kept up performance all time in sight.

1941-2 Marshall

Troglodytes musculus

Int. Cacaguatigue

Dec. 25-Jan 16

Abundant everywhere in finca & smaller oaks & brush at edges clearings where brush not high or dense. In brush piles, low scrubby brush & fallen branches throughout finca. Usually paired. Pairs found in finca where only a few dead branches for foraging - yet would stay in these & remain well concealed. Apparently not in the tall humid brush where Thryothorus found. Song ~ house wren but not as rapid & bubbling. Always close to ground. Found around hacienda.

Los Esesumles

March 27

♀ skel 2194 taken as carried nest twig. Abundant in brush - never in cloud forest.

Marshall, 1942

Troglodytes rufociliatus

Los Esesmites

March 12 2066 taken as foraged up trunk orchid oak edge cloud forest (worked from ground up 15 ft) in orchids & mistletoe & on bark. Singing: twittering unmusical rapid slight harsh sounds.

March 15 2092-3 taken in brush edge sm. clearing & slide respectively in cloud forest. Alarm note 2-syll. nasal & grating, very distinctive. Songs heard often.

Marshall, 1941-2

Thryothorus modestus

Mt. Cacaguatigue

Dec 25-Jan 16 Not common. in ~~Arid~~ ~~Upper~~ ~~ca~~ But always heard or seen in dense humid tall type of brush near summit & in deep canyons. Also found in tall humid brush at ^{lower} edge of oaks on S slope & fairly common in arid type of tall brush below level of oaks. Attracted to owl in summit humid brush Jan 14. Here there were about a dozen birds - spaced out 2 every 20 yards or so in this area of thickets. Loud call & alarm notes very striking. Not heard singing. Always kept well-concealed in brush & vine tangles. Absolutely restricted to dense tall brush tangled with vines. Usually in pairs.

Lake Olomega

Common in tall brush grass near bushes, & bushes back of camp (dense brush area).

Los Cresnules

Common in brush - not in nor near cloud forest. But more abundant down w. slope in dryer type brush where Melozone, etc.

Marshall, 1942

Henicorhina leucophrys

Los Escamiles

March 15 At about 10 am. at little creek in cloud forest where much dense riparian brush - vines - ferns squeaked up this wren (in ferns) & it gave a wrenlike note that was new to me.

March 17 At ~~low~~ summit - edge cloud forest, beginning of high ^{20-30'} dense humid brush, vines, etc on damp ground was squeaking & owl calling & shooting everything that I could see - got the Henicorhina 2121 as it came across view in stems blackberries etc about 1 ft above ground. Same place where Atlapetes (& Buerrenon farther into cloud forest). wing 54.2, tail 30, tarsus 21.6, culmen 13.2, bill from ant. end nostril 13.6, depth 3.2 width 2.5 ant edge nostril

March 26 ♂ 2183 skel. taken in dense undergrowth of cloud forest near brushy creek. Foraging in tangles of twigs, vines, etc. Calls - bzzt, bzzt. (2) & Canyon Wren, also a cut, cut. Song very sweet & clear patterned & Myiothous modestus ~~by~~ but more varied & superior musically. But like it in that just 2 phrases at a time. These calls heard from all streams in canyons of the cloud forest - a very common bird but hard to see.

April 4 ♀ 2255 attracted by owl calls in area of dense humid brush & vines in open cloud forest. (another with it) (near water.)

Marshall, 1942

Heleodytes zonatus

w. slope Lox Ese miles

April 1

Abundant in pine grove $\frac{1}{2}$ way down
w slope - in pines & in brush around
& under them. Some taken as foraged
goldfinch like in little bushes (beard
leaning way over), 1 taken as gave
harsh cactus-wren-like notes from top
twig of pine. Much noise - always
2 or more together. 6 taken.

April 6

3 ~~6~~ taken same place. Pairs would
perch side-by-side & sit motionless
on pine branches. I was amazed
to see them fly to pine trunks
& cling to bark like nuthatches &
climb up the trunk & around the
more upright limbs.

Marshall, 1942

Melanotis hypoleucos

Los Esesmites

March 9 2040 singing in bush of brush patch at our house (cleared hillside). Short song - not like mockers - a few whistles & too-too-too-too (all same pitch at end.) Set still - bent over like catbird.

March 11 2048 (hel) same sit. as above - interior of bush.

March 16 Singing all day in bushes around camp. Good song, varied phrases, but each song short.

March 17 2 p. at summit divide - close to each other - conspic - full song, flying around, came readily to squeaks.

Marshall, 1942

Turdus rufigitorques

Los Escamiles

March 9 2039 taken as perched calling see-cut
~ T. migratorius in decid. tree among pines
& scrub on ridge between cloud forest
& brushland.

March 13 ♂ 2070 taken early am. as sat on stump up
cleared hill above camp. 4 or 5 others seen -
all seemed to be flying long distances - edging
downhill. Would alight far apart - across
canyons even & call with typical T. migr.
calls. Very peculiar behavior - how perhaps 12
indiv. hang together yet spread over such
vast dist. - still moving along as a whole.

March 16 Rain in ^{late} P.M. - T. migr. song from bird on stump
up hill prob. this sp.

March 31 Abundant in orchards around farms
near the pass. Singing & calling ~
T. migratorius in late evening.

April 6 Seen in same place as Mar. 31.

Marshall, 1941-2

Turdus grayi

mt. Cacaguatigue

Dec. 25-Jan 16 Abundant but not uniformly distributed - only in flocks here & there in finca where usually with russet-backed thrushes & mixed flocks. Found in little ravines especially where shady - foraging on berries in trees. Make a slight "seck" note & robin when fly. Rapid flight - keep in dense trees most of time. Call heard early a.m. & late evening, a loud peculiar whistle ^{high} kee ooree ^{lower high} ~
from all parts of finca. Seen Jan 12th
Jan 14 in great numbers in humid type of bush & nearby trees on the north side of a ridge near the summit - also in ~~the~~ trees near this bush down into a canyon. Always in well-shaded spots.

Marshall, 1942

Turdus plebejus

Los Esesmites

March 15 2091 taken from high in foliage of dense cloud forest tree. Many robins seen & heard squeaking ~ T. migr^{alber} in flight & seen only rarely. A "song" heard circumstantially only - tied up with this sp. because I got spec. from where song had just come. It was ~~hopp~~ crawling around in foliage & looked like a solitaire from ground. This song is long-continued & sounds just like a house sparrow in the distance - actually is very close - very soft - perhaps just a whisper song - definite robin quality but simplified & degen. into Eng. sparrow song. Keeps up contin. phrases for about 30 sec. Then silent for several min. Many of these songs heard - also the T. migr-like squeal as they feed in foliage.

March 17 ²¹¹³⁻²¹¹⁶ 2113-2116. 94. Chorus of songs at dawn - could make out sequence in some - 4 phrases repeated rapidly & incessantly. Calls ~ T. migratorius but also a ~~weak~~ creeper-like squeak often heard. Pair taken in little tree in Vaccinium-grass at summit divide where many seen & heard. Sang from way in dense crowns. Another ♀ taken was carrying moss for nest. Exceedingly abundant all thru cloud forest & at edges, chasing each other, singing, scratching in epiphytes, running about in foliage, squeaking. ^{most abundant bird} in cloud forest.

Marshall, 1942

Turdus infuscatus

Los Esmeriles

March 15 Cloudy in am. T. inf. singing well into day - usually on clear days only hr. or so. sunrise & dusk.

✓ Mocker - heard from high in cloud forest trees esp. along ridges & near slides or openings in cloud forest.

2090 taken - singing. Song's phrases of same delivery as mocker but include some very robin-like sounds, also some resembling Saltator atriceps & other native sp. The most evident Turdus here

March 16 Rained at dusk & Robins came out of cloud forest & sang in brush & low trees in clear area around camp where coll ♂ 2106 skel.

March 17 ♂ 2111 coll. singing from little tree in middle expanse brush vines at summit divide - others singing there also - foggy - 50-100 yds. from forest. ♀ 2112 taken in cloud forest. Seen & heard all day in cloud forest but gtl. outnumbered by T. plebejus.

March 23 2051 ♂ taken foggy am in brush far from cloud forest - flew in to the owl. Was at a spring.

Marshall, 1942

Catharus occidentalis

Los Escamiles

March 13 2074 large ♂? + 2075 taken in ^{rat} traps baited with oats (bills on the oats) about 70' apart in dense under-story of brush in heavy cloud forest - w-facing slope. at dusk heard a few phrases like higher phrases of hermit thrush's song from same ridge.

March 14 Same snatches of song heard when almost dark at edge forest farther up mt.

March 17 2122 taken at dusk at edge slide-out on hill partly logged of cloud forest. Had heard the call a hyla like whistle + voice tseeee from ridge brush(?) & I imitated it & the bird flew right past me & alighted - form very thrush-like. Heard several more & saw flicks of their movement in dense ^{high bushes} brush within cloud forest - same note - none singing. Very common - but noticeable only at this time day - when calling & coming out in open as do hermit thrushes when almost dark. I had heard this note previously at dusk on this ridge (back camp), up in young pines & deciduous trees, & sometimes during day in cloud forest.

March 18 Heard one sing - for about 3 min contin. in little oaks edge cloud forest.

March 19 2127 ♂ taken when attracted to owl in midday. called with hyla note.

March 20 Calls heard even from pine & brush. P.M. Several song phrases. No real singing yet - just 5-6 phrases in cloud forest.

Marshall, 1942

Catharus occidentalis

~~March~~ Los Esmerales

March 21 Sunny early am. We were trying to flush quail from bushes & blackberry tangle in draw near camp - a ♂ was flying around from place to place calling loudly (hyla note) & occasionally singing a few strong notes. Perched in full view several times saw it flick wings & raise tail just like hermit thrush - prept not as neat - shook more - not as smooth.

March 24 ♀ in 2159 taken in rat trap by M.H. in dense cloud forest.

March 26 ♂ 2184 skel. taken in bush near cloud forest on a ridge cloudy afternoon & were calling frequently. I watched this bird forage & hermit thrush by flying darting at a berry, hovering & picking it up, then returning into dense foliage to sit & call.

March 30 ♂ 2215 taken at dusk as foraged on ground near trail along ridge of cloud forest.

March 31 Beautiful singing - loud full songs, from brush country where cloud forest cleared at dusk on sw slope.

Marshall, 1941-2

Hylocichla ustulata

Mt. Cacagnatique

Dec. 25 - Jan 6 - Abundant but irreg. dist. in loose groups in shady spots throught finca especially where some dense low original brush cover remaining. Usually feeding on berries with Turdus grayi but also in own loose flocks in finca - even sometimes in open. Many seen in tall dense brush on S slope around lower level of oaks on Jan 15. Also common Jan 14 in high humid type brush with T. grayi near summit. At dusk many heard & seen running about under oak groves.

Lake Olonega

Los Esmerales

March 30 At dusk one called on ridge of cloud forest from brush - heard here 2 previous evenings when here - in same spot. Always too dark to coll. it. - Obviously a winter visitor on a reg. winter term.

Marshall, 1941-2

Sialia sialis

Int. Caraguetzius

Dec 31

About 6 heard & seen high in tall oaks in partly cleared grove of large oaks n. hacienda - same place where Balanophylla common.

Coll 3 1636-1638. Were perched & calling, flying very little

Marshall, 1942

Myadestes unicolor

Los Esesimiles, Dept. Chalatenango, El Salvador

March 7 2 ^(together) ^{seen} flitting quietly thru grove
young white pines on a ridge - near
cloud forest. Assumed to be this sp. !!!

March 10 In cloud forest (orchid-oak) habitat - tracked
down hylocichla-like song & saw this bird
(2045 skel) sitting quietly on twig 50 ft up
singing. About 1 song/min. ^{2 min} stops for 5 or more
min after flying to another tree. Seen
later with another - both flitting from
twig - twig - 2045 singing. Could then determine
identity of all the cloud-forest singers -
a very common bird - sing all thru
day (sunny today) but esp. early & late -
Song lasts longer than Hylocichla - about as
long as M. townsendi - phrases of beautiful
tones rich in overtones, wide range pitch
quality of a Hylocichla (low notes especially) -
This most notes are low & full - don't work up
high like Hylocichla. Ends usually with trill &
trill ending of H. mustelina. Reorganizes song
about every 15 min.

March 14 2078 ♂ taken - middle parts cloud forest trees.
Variation of song: heard in midday & evening - but
not full song - phrases ^{of song} separated - continuous;
but slow - some harsh trills introduced

March 15 2094 ♂ taken in cloud forest - most persistent singer ^{here}

March 22 ♂ 2146 singing in pine, windy day, on ridge - 50 yd. from cloud forest

Marshall, 1942

Myadestes unicolor

Loe Eresmiles

March 25 2173 ♂ taken in low bush in cloud forest -
silent.

March 29 ♀ 2203 taken from pair working in
young pines near edge cloud forest. ♂
gave plaintive low 2-syll. whistle - then
contin. singing.

Apr. 6 ♀ flushed from nest on bank near little
stream where ferns, moss etc. Nest in
nitch on moist bank - 2 eggs white
spotted with reddish-brown. ♂ singing nearby.

Marshall, 1942

Myadestes obscurus

Los Eses miles

March 23 ♂ 2153 taken early foggy am. on 2nd growth hill where owl set up in dense low trees & large group birds around. This bird didn't come in but gave several loud steam-whistle alarm notes (higher ~ hermit thrush) then started singing again. Saw it fluttering in young trees. This settled a long ? we thought this singer was nightingale thrush - but song has some notes & quality to M. unicolor but entirely different pattern - very swift succession notes rich in overtones but harsh combinations like creaky wheel turning round & round. A song lasts about 8 or 10 sec. High overtones recur about every second & start again while low ones are getting under way, hence "revolving" nature. Heard every day here early am & evening & at intervals during day, more regularly when cloudy. A ♂ in every canyon below cloud forest where dense brushy trees (2nd growth). Never 2 together except today (the other ♂ came to the owl for just an instant) & was probably the one from next ravine. This is the hardest bird of any to get - unbelievably wary. One seen yesterday - flew across ravine. Not nearly as common as M. unicolor. Spaced out on breeding territory.

Marshall, 1942

Myadestes doerriani

Los Escamiles

March 24 ^{un} One singing on side of canyon in cloud forest today - not since or previous - apparently just visiting from a reg. terr. farther down canyon where lower, denser trees. Or still a terr. shifting going on?

March 29 A which usually in ^{2nd} canyon & camp was hanging out ~~on~~ in last part of cloud forest on ridge to n - but in thinned area & staying in dense sun. trees.

Marshall, 1942

Bombusilla adroem

Los Escorniles

March 20 Am. heard fainter squeal from top few ^{original} oaks on 2nd growth cloud forest ridge. Saw one bird perched on dead twig in top tall oak, 1 min later, another in ~ place on another tall tree. Erect posture, squeal, tail band noted.

Only 2 - didn't fly together - flew separately as Stint & I were stalking them - we shot in flight but too far.


March 24 Flock of about 25 flew around camp in late afternoon - high. I fired twice & whole flock dove into bottom canyon & hid in brush. I went toward them down the canyon & they flew silently & in compact formation down the canyon, just over the brush. Very good & striking unified defence action!

March 31 On s slope in brush land (cleared) flock ~~camp~~ came to rest in evening in lone dense oak - I shot ♂ 2221 there.

Marshall, 1941-2

Cyclanhis flaviventris

Mt. Cacaguatigne

Dec. 25-Jan 16 Rarely seen but heard about every day singing in brush - humid dense type or arid sparse type below level of oaks. ~~in brush around~~ Only in tall brush, however. Only 1 seen or heard in finca - Jan 17 #1765 taken in finca coffee bush - with large mixed flock. Usual song like that of canyon wren but each whistle inflected  when. Other songs in great variety but built on plan like usual call note of Calif. purple finch. Toodle-tiddle etc. Jan 11^{#1732} & Jan 9^{#1715} ♂'s seen as sang up in low trees above the brush. Sit very still - hard to see unless turn yellow side toward you. Each song well spaced - farther apart than Vireo solitarius. Jan 9 - were 2 singing within 50 yds in scrubby trees over arid brush. Answered imitated whistles readily.

Marshall, 1941-2

Vireo solitarius

Mt. Caccagnatigue

Dec 25 - Jan 16 Total of about 6 individuals
seen - always in finca shade trees
with flocks of warblers & Hammond
flycatchers.

Marshall, 1942

Diglossa barbitula

Los Escamiles

March 15 On edge slide in steep cloud forest hill - in some dense bushes (at edge) in a.m. coll. 2088. There were Chlorospingus around & I couldn't separate the calls of the 2 sp. nor tell whether anymore Diglossa - I shot another bird of unknown sp. also squeaking but couldn't find. This specimen was only 5' from gnd. in bushes. In an open brushy area within cloud forest.

March 17 3 seen today - ♂'s all in brushy areas near edge cloud forest - 2117 at summit divide in short tree left where brush being cleared; another shot at 3 ft above gnd in brush edge cloud forest with warblers & Bush-tanagers which came to my imitated owl calls & squeaks. 2118 taken from brush edge sm corn field between 1st & 2nd cloud forests - it was perched horiz & warbler (others of worked thru foliage & warblers too) & was giving a call like a sparrow chip but I ~~can't~~ didn't recall the sparrow before I had lost this impression of the call. All 3 - saw no others - but could have been in flocks - always Chlorospingus around to confuse things - they have a different call every time heard.

March 18 2123 ♂ skel taken in blackberry brush n-e slope with Chlorospingus & Spinus - saw only the one. 300-500 yds from cloud forest.

April 4 2 came to owl calls & 3rd seen all in humid brush in openings in N

Marshall, 1941-2

Mniotilta varia

Mt. Cacaguatigue

Dec. 25-Jan 16 Not uncommon - seen
occasionally in oaks on east ridge
2 or more at a time. Seen once or
twice in finer shade trees. Usually
with other warblers.

Marshall, 1942

Vermivora superciliosa

Los Esesmites

April 4
Fin

♂ 2250 taken from foliage of orchid oak where working in leaves & in orchids & singing - penetrating cicada like buzz. In tallest cloud forest - others heard nearby. - - Same sound has been heard twice before - always 2 or more birds singing at same time in given area - always in cloud forest.

1 mi. E Cero de Los Naranjos, 5900 ft., Dept. Santa Ana

April 11

Common in cloud forest. Took ♂ ad. 2278 as sang on branch orchid oak & foraged.

Marshall, 1941-2

Vermivora perigrina

Int. Caraguateque

Dec 25-Jan 16. Abundant - this & Dendroica

virens the most common birds.

In large flocks in finca shade trees - also in lower ^{more open} oaks. Sometimes pure flocks. Not below level of oaks

only upper tropical. Also in pines.

Loz Eses miles

March 19 ♀ 2426 taken on 2nd growth cloud forest in dense 20' trees - attracted by int. owl calls. call tree.

Marshall, ¹⁹⁴¹⁻ 1942

Dendroica townsendi

Mt. Cacaguatigue

Dec. 25-Jan 16 Not uncommon - seen about a
~~dozen~~ 8 times in finca shade trees
sometimes with other warblers but
usually solitary. ♀

Los Eses miles

March 11 ♀ 2053 heavily moulting taken in brush
edge but within cloud forest.

March 14 One shot in open cloud forest (lower part)
for ident. not saved.

March 15 Another shot - not saved. Heavy moult ~ 2053
still no D. nigrescens!

March 20 Common in 2nd growth oaks - usually work
high.

Marshall, 1941-2

Dendroica virens

Mt. Cacagnatigue

Dec 25-Jan 16 Very abundant everywhere in trees in upper tropical - both oaks & finca shade trees - also come down to forage in coffee bushes. In flocks & in mixed flocks with other warblers & tanagers etc.

Also in pines with V. peregrina &

D. graciae.

Los Eses miles

March 20 2135 attracted to owl in 2nd growth oaks lower edge cloud forest.

Marshall, 1941-2

Dendroica occidentalis

Mt. Cacagnatigue

Dec. 30 Coll ♂ 1647 from mixed flock
warblers in pine tree when trying
to get D. graciae. Seen on one
other previous occasion.

La Esperanza

March 28 ♀ 2197 taken & flock seen - at least
one more was this sp. (with D. townsendi)
in young pines on a ridge. (Others
shot but not found in same pines on
subsequent days) - ~~one shot but
not found (ad ♂ with black V on
chest) 1/2 way down w slope in oaks~~ (D. virens)

Marshall, 1941-2

Dendroica graciae

mt. Cacagnatigue

Jan 7 ♂ 1701 taken from pine tree where
foraging high with other warblers.
This bird always heard daily in
same group of pines - singing. Song
a trill - sort of a cross between
D. aestiva + D. auduboni. The only
warbler singing on the mt. Sang
regularly all day long - 2 others
found on 2 other ridges where
pine groves - these 3 birds heard
every time I passed those 3 pine groves.
Very restricted - to pines. Would stay
in their trees after the mixed
flocks of wintering warblers would
pass on. Foraged in foliage like
D. townsendi no flights out of tree
like D. auduboni Stayed high up.

San Ignacio 3000 ft. Dept. Chetumal

April 6 ♂ 2270 taken as sang 1/2 way up
30' pine at dusk.

Marshall, 1941-2

Seiurus aurocapillus

mt. Cacagnatigue

Dec 25-Jan 16

Seen & collected occasionally

in groves of smaller oaks on east side mt. Usually on ground. About

as common as D. townsendi.

Lake Olomega

Los Esesmites

March 25

1 attracted to stuffed owl on
2nd growth hillside across from camp.

Marshall, 1941-2

Oporornis tolmiei

Mt. Cacaguatigue

Dec. 25-Jan 16

Common in both types brush -
the humid dense viny type on summit
& the dry type below level of oaks on
S slope. ^(Jan 15) One collected in former habitat
Jan 12 but not saved.

Los Esmeriles

Mandero

Abundant in brush edges cloud forest
& in ferns & blackberries everywhere esp.
in cleared areas, ~~in~~ in ravines. Not in dense
cloud forest brush where dark - on open cleared
hillsides ^{& ridges} with fern & blackberry brush. Call
readily ~ Pileolale when give squeak.

Marshall, 1941-2

Wilsonia pusilla

Int. Cacaguatigine

Dec 25-Jan 16 Abundant everywhere except where no cover. Foraged in shade trees, coffee bushes, oaks, (not seen in pines) & both types of brush (arid & humid). Often with mixed flocks.

Lake Olomega, 200 ft., Dept. San Miguel, El Salvador

February 12 Call-note heard in am. while I was walking up a dry wash into the Colinas - not seen - came from bushy area under open tree growth.

Lake Olomega Los Eses miles

March 14 Feb 12 ♀ 2080 taken as foraged about 60' up in cloud forest tree - open cloud forest. Abundant here - seen every day esp. in brush around edges forest. - ~~also seen~~

March 20 As abundant & more so than Chlorospingus in 2nd growth oak hill. Ad ♂'s far outnumbered by others - always call loudly when I squeak & they come readily to owl.

* * * Abundant in brush, fern slopes, & along bushy streams in cloud forest & often high in cloud forest trees.

Marshall, 1942

Pericedramus olivaceus

Lox Eresmales

March 29 ♂ 2200 taken early a.m. as foraged & called in single young lone pine on cleared slope near cloud forest.

April 1 2233 ♂ skel & 2234 taken in Purins ~~along~~ oocarpa & nearby oak $\frac{1}{2}$ way down w. slope. Common here - loud clear song repetition of an inflected vireo-like note about 8 at a time. Loud call a clear descending pee-er ~ Hermit thrush, several other finch-like notes. Forage light^{ly} in foliage of pines. Very common.

Apr. 6 Found all way down to about 5000 ft - common wherever pines.

Marshall, 1941-2

Setophaga picta

Mt. Cacaguatigue

Dec. 25-Jan 16

This and Dendroica graciae the only warblers which stayed on their territories - usually found in same area day after day. Widely spaced in oak forests - almost never 2 in earshot at same time. (Sometimes 2 together however). Forage very high in trees - usually large oaks & call about every 10-15 seconds with very loud shrill call like miniature flicker. Hop gracefully around branches - forage often ^{high} in ~~the~~ tall dead snags in open. Only in large oaks & adjacent tall snags.

Los Eses miles

March 13 2 definitely seen & heard in cloud forest - song a trill - uniform - quality of D. auduboni was strikingly similar so didn't shoot. Saw white wing patch - will check up on song - perhaps coincidence: Myioborus present

March

No - song that of Myioborus. ? Setophaga ??

Marshall, 1942

Myioborus miniatus

Los Esesumiles

March 14 ♀ 2079 taken from pine limb in rather open cloud forest.

March 19 2 ^{separately} seen on rd growth hill - came to owl - too close to shoot - went right on. no call.

March 20 2124 came to owl call same place as yesterday. low in dense sm. trees 15' high.

March 30 skel ♂ 2206 taken as sang early am. (only sing then - sometimes a little in evening) from bush at edge slide in cloud forest.

- - - Common in open parts of cloud forest as where thinned by logging & around edges of forest - affects bush but sings from high in cloud forest oaks.

Marshall, 1942

Basileuterus delatitii

Lake Olanegua

Pairs seen in brush along stream back
camp (not dry brush) & brush under
trees along margin of lake near camp.

w. slope Los Esosmiles

April 6

At about 4500 ft in pine belt, 2261
Taken in dry brush.

Marshall, 1942

Basileuterus belli

Los Esmeraldas

March 20 2 called when I squeaked & gave owl calls in deep dark cloud forest. Squeak & Chlorospingus. The pair was working on the ground, I think, & on stems & twigs close to ground. ♂ 2129^{skel} taken about 1' above ground. Not dense brush here. Looked & acted just like a wren.

March 27 ♂ 2192 taken when heard double (see) (to disting from Chlorospingus) in dense brush & trees at bottom cloud forest canyon.

Apr. 4 2257 skel ♂ attracted to me in dense humid type brush in open cloud forest by owl calls. Another with it, perhaps 2.

Marshall, 1942

Cassidix mexicanus

Lake Ohomega - last day at camp

Los Esesmites

March 26 ♂ skel. 2182 taken a farm yard high
on N-E slope - with several ♀'s.

- Found around all larger farm yards
on the mt. - all below ^{the} cloud forest.

Marshall, 1941-2

Icterus chrysater

mt Cacagustique

Dec 29-Jan 16 - Abundant in flocks of a dozen or more almost always with roving mixed flocks of jays, tanagers, etc. Always singing & calling loudly with clear notes both harsh & others sweet. Only in finca (forage in shade trees, coffee bushes) except Jan 3 when large mixed flock working thru dense forest of large oaks, humid type brush & along stream into finca again.

Marshall, 1942

Icterus wagleri

mt. Cacahuatigue

Jan 11

♀ 1734 taken from mixed flock
saltators, Turdus grayi, Cylococcyus
in brush & low trees (v Elder &
brush in strawberry canyon) in cleared
area. Rest of orioles & saltators retired
to oaks. Were singing & calling.

Los Esesmites

March 9

2041 taken as fed gold-finch fashion on
tall thistle (eating at blossoms) among
few bushes bottom canyon dry hillside where
camp is.

w. slope Los Esesmites

April 1

2 calling high in pines & one retrieved.
2245 ♂.

Marshall, 1942

Tanagra elegantissima

Los Eses miles

March 12 4 taken ^{#2059-2062} - some feeding in mistletoe in oaks - others twittering & chasing each other around in pines & tops broad-leaves. Song ~ goldfinch but all rattles & hard notes - very slight. Call hard to figure because siskins around also. Were about 7 or 8 - all together in same area of sparse tall trees (a few oaks & pines) on brushy ridge below edge cloud forest.

March 20 ♂ 2133 taken from tree in bottom ravine logged off much brush & many 2nd growth & tall trees. Calling from bare exposed twig ~ ~~Call~~ Purple-finch. No more seen.

March 21 ♀ 2140 taken with a ♂ in twigs half-way up cloud forest oak on ridge - but a tree on edge cloud forest & near area where others taken.

Marshall, 1942

Thraupis abbas

Mt. Cacagnatigue

Jan. 2

At dusk, 3 birds perched in top
dead snag near hacienda - I got
one ♂ 1663. Stitt said one
of the other birds was red.

Marshall, 1942

Piranga leucoptera

mt. Cacagatigue

Jan 10

#1724

taken from a pair foraging

in small deciduous trees in ravine

with mixed flock in finca where

some native trees left. 1725^{coll.} (MH)

also in finca.

Marshall, 1941-2

Piranga ludoviciana

Mt. Cacagnatique

Dec. 25 - Jan 16

Common throat finches in mixed flocks with warblers & other tanagers especially along summit ridges. None singing. Feeding on berries & blossoms(?).

Marshall, 1941-2

Piranga bidentata

Int. Caeagnatigine

Dec. 25 - Jan 16

trees

etc.

Common in finer shade

with P. ludoviciana warblers

Feeding on berries

Marshall, 1941-2

Piranga rubra ^{no bars}

Mt. Cacaguatigue

Jan 11 1737 taken in finca shade tree.

Jan 13 1751 " " " " "

giving typical call: pi-tick - not
a rolling call like P. ludoviciana.

Fairly common but hard to identify
unless calling or collected.

Marshall, 1941-2

Piranga flava

Mt. Cacagnatigue

December 27 or 28 (see specimen ^{coll by myself} prepared by Galey or Elliot) and Jan 2 Saw a pair each time in medium high oaks on east part of mountain. Foraging high in foliage. ♂ of pair was the hepatic red.
~~no slope~~

no slope Los Eses miles

April 1

1 taken from ^{near} top pine where had been calling & foraging in twigs near top.
♀ 2246.

Marshall, 1942

Chlorospingus ophthalmicus

Los Esmerales

March 11 ♂ 2055 shot taken in understory of tall bushes in edge cloud forest - with several others. - - Common in brush in cloud forest & at immediate edge of cloud forest - seen everytime I go in such habitat - in flocks of 4-6. Come readily to squeak-curious. An individual gives notes sounding like a whole flock of foraging golden-crowned kinglets.

March 14 3 spec - 1 by M.H. all from cloud forest dense brush below - all solitary! One up about 15 ft. others low.

March 15 Some pairs, some small flocks. single seep ~ kinglet or creeper.

March 18 Way out in brush & blackberry - away from cloud forest. Small flocks. P.M. pair seen. might say: wherever high dense brush.

April 5 Nest found in gully near stream below camp. On fern-covered bank near a few ^{tall} bushes - wheat all around. Feeding young.

Marshall, 194 2

Saltator atriceps

Mt. Cacaguatigue

Jan 5 see Genl Acct pp. 16 & 17

Dec 25 - Jan 16

Common & usually
a component of mixed flocks
but always outside of finca (once
came into finca trees - but near oaks)
As flocks move ~~to~~ across clearings
they may work in weed &
brush also but usually rather
high in oaks. Most favorable
places & where most commonly seen
are such as Jan 5 : edge of oak
woods where brush & lower trees.
Always about 4-6 or more together -
loud calls.

Marshall, 1942

Buarremon brunneinuchus

Mt. Cacagratique
in Cacagratique

Jan 15 ♀ in 1758 taken at lower edge oak forest on south slope. Was scratching around in a little patch of loose low brush ~~resembling~~ under a grove of oaks resembling our chinapiñ scrub under yellow pines. Another heard rustling there also. Elevation about 3800 or 4000 ft. about 25 yards from end of oaks and beginning of brush.

Los Esmeriles

March 11 2050 brought in alive by native

March 13 ♂ 2072 ~~not~~ caught in rat trap (octo) in cloud forest in dense understory of brush & vines.

March 17 2119 taken early am. in humid-loving plants well within cloud forest on summit. Was well down in bushes & giving a shrill penetrating squeak - not plaintive like Altapetes.

March 25 ♂ 2174 taken at dusk as 2 were running along a log in burned brushy area - not cloud forest. Apparently come out & active in evening & heard thrush.

March 27 ♂ 2193 taken in dense cloud forest - several foraging together making loud rustling in leaves on ground & calling with piercing squeaks - not in dense brush.

Marshall, 1942

Atlapetes gutturalis

Mt. Cacagnatique

Jan 10

♂ 1729 taken when I shot thru a patch of dense humid type brush in the clear at edge finca on west side of highest peak (about 50' lower than "summit"). At dusk saw more (heard them rustling) by peeking into the interior of brush patches - apparently getting ready to roost.

After Jan 10, heard their thin high mouse-like squeak or saw them every time I visited patches of humid brush on the summit. Couldn't collect because stay way in brush & can see only for an instant. 2 or more together. One seen foraging - hopped around over twigs beneath brush & apparently scratched??

Los Esesmites

March 17

2120 came into view thru dense bushes vines, etc. on summit at division of high humid brush & cloud forest - where I was squeaking up birds - Heinrichia also.

March 24

♂ 2160 attracted by owl calls out of brush in ravine where small oaks & pines - high blackberry brush a pair.

March 26

2185-2187 taken at one shot fired into blackberry bush

Marshall, 1942

Atlapetes gutturalis

Los Esmeraldas

March 26 on open n-e blackberry country.

Had seen the 3 go into the bush - had
rushed them down hill from one black-
berry clump to another - they gave trip
white-crowned sparrow.

April 3 Pair in blackberries at house - ♂ mounting
into top bushes to sing - series of
squeaks very high - not much song yet -
prob. early in season - tert 4 min. ♂ ad 2248.
Squeaks heard every am - after this in
rhythm: ~ - - - .

2008 P . 3 . 13

Marshall, 1942

Melospiza lincolni

mt. Cacagnatigue

Jan 11

♂ 1733 taken from weeds in a
cornfield on side canyon n. hacienda
One more with it. [Heard at in
weeds near river at Gotera, Dec. 24.]

Los Esmerales

March 16

2104 ♂ taken in brush in gulley near camp. With
Passerina cyanea & Aimophila rufescens !

March 31

Same as above ♀ 2216

Marshall, 1942

Melospiza bicincta

w. slope Los Eses miles

April 1

2 seen in brush at side trail with
Aimophila rufescens & 1 taken. ^{2241 ♂ skel.} Others
heard - call very tiny & metallic.

April 6

2262 ♂ taken same spot at above -
many more seen farther toward San
Ignacio - pairs - always in dry brush -
often with flocks Tiaris.

Cerro del Aguila, 5500 ft., Dept. Santa Ana

April 12

2 heard scratching in leaves under
coffee bushes & giving metallic call & also
a light "tsip" 2294 taken.

Marshall, 1941-2

Zonotrichia capensis

Mt. Cacaguate

Dec. 26 ♀ 1603 taken in afternoon when I shot at
2 foraging together ^{long group} at base of bush in garden
at hacienda. The other got away.

Dec. 30 ♂ 1631 taken in same garden as
above in a.m. as gave ^{single} chipping
notes from top coffee bush.

These are the only times this sp. was
seen at Cacaguate.

Los Esmeriles, Dept. Chalatenango, El Salvador

March 11 2046-7 ♀s taken near camp (cleared bushy
hillside formerly forest) chipping from
tops bushes. Chip metallic &
almost identical with call of Sporoptila
miniata.

March 16 2103 ♂ taken as sang from top stump near camp early
am. Only one long high note v gr.-b. goldfinch: tsereeeeee
Later another ♂ in trees around camp tsu, tree, tsereeeeee
or just last 2 notes - not at all suggestive of other Zonotrichias.

March 17 Common in baccharis & grass & other brush (singing) on
summit divide

Marshall, 1942

Amorphula ruficauda

Mt. Cacagnatique

Jan 9 ^{Jan} Flock seen in agave around house
at 3500 ft below level of oaks on n. slope.

Jan 15 ^{Jan} ♂ 1759 taken in cornfield at about
3600 ft below level of oaks on s slope.
Others seen in agave thickets (where
flushed from cornfield) around huts.



Marshall, 1942

Amniophila rufescens

Los Esesmites

March 11 2049 taken in bushes on cleared hillside
next camp - heard singing all am. -
various individuals - from brush - 4 all together -
spaced far apart - often 2 in earshot at same time.
Song usually of 2 notes or 2 double notes -
loud, somewhat rough: kip kip, several
seconds wait kli-up kli-up etc same
phrase used for 5-10 min then change to
another. Delivered ^{somewhat} solitary notes, quality
of black-headed grosbeak. Also another - ♀ probably
in same bush ∴ paired.

March 15 ♂ 2097 singing early am. from top
thistles in patch of brush on hillside cleared
for wheat - very low brush & vines here.
mate seen (as above). Song chip, chip,
che-wee. 1st 2 staccato, last a whistle.
given about 3-4/min. Paired.

March 20 Pair in blackberries & grass at camp. ♂
singing & coll. 2:30.

March 24 ♂ 2164 singing - with mate in bushes around
camp - taken from little tree - stayed in interior.

Apr. 1 ♀ 2242 taken w slope (pines) 1/2 way to
San Ignacio. foraging in trail. Common:
perches seen in roadside brush usually
with other birds - Melospiza, wrens, etc.

Marshall, 1942

Spizella passerina

San Ignacio, 3000 ft., Dept. Chalatenango, El Salvador

March 5 2032 taken on ground where feeding with 5 or 6 others on in very short grass 1" high - grazed off in open pine forest (*P. docarpa*) - typical chippy habitat - sparse pine growth over almost bare ground - plenty of clear ground - no bushes - feeding with Sialia sialis - would flush singly or in groups & perch in lower horiz. branches. Rather common - commonest bird in the pine. ♀ - ovaries beginning to enlarge.

Not paired, however.

April 6 ♀ 2269 taken on ground at dusk. ♂'s singing in pines.

Marshall, 1941-2

Passerina cyanea

Mt. Cacaguatique

Dec. 25 - Jan 16

Almost always saw a flock of about 7 or 8 in clearing n. hacienda where low bush & ferns. Sometimes in dense trees around edge this clearing. No ad ♂'s seen.

Jan 7 & 15

Seen (4 or 5) at both dates in low bushy trees at edge fields below level of oaks in arid lower tropical. No ad. ♂'s seen.

Lake Olomapa, 200 ft., Dept. San Miguel, El Salvador

Feb. 22

♀ 2015 taken in open low ^{legumes. trees} ~~brush~~ (bare stems) in grassy area near lake. Solitary.

Flocks usually seen here & elsewhere in grass & corn fields - would flush into bushes & ~~some~~ low leguminous trees.

Feb. 23

In trees above a dry wash flowing leading toward L. from the Colinas was flock birds high in foliage, foraging on berries very active, quick movements, & rapid flights chasing each other thru treetops. Shot one & was this sp. Didn't skin. Was not near open grassland.

Los Esmeriles

March 16

Flock in gully by camp about 6 or 8 in bushes. Saw ad ♂, shot in for ident. not saved.

March 23

♂ 2155 taken am. in bushes in gully (where water) in cleared area. About 5 ad ♂'s seen in flock, not ♀'s.

Marshall, 1941-2

Hedymeles ludovicianus

Mt. Cacaguatique

Dec. 25-Jan 16 Seen in 2's or 3's in finca shade trees with tanagers, etc. Shot some - prep. by Elliot. Almost as common as Phylloscopus

Lake Olomega, 200 ft., Dept. San Miguel, El Salvador.

Jan 22-Feb 24 Seen once or twice in trees along trail.

Marshall, 1942

Tyrus linaceus

Los Esmeriles

March 24 Flock found roaming thru blackberry thickets in open country on NE slope.

Seemed to go into interior of bushes.

Disappeared after 2 shot 1. (♀ 2157 skel)

March 26 Flock (loose) found in blackberry further up mt. from where Mar. 24th. Took ♂ 2188 at edge blackberry thicket - others in neighboring bushes disappeared. That calling Oporornis tolmiei but may have been that latter sp. actually.

March 30 Flock found in ~~far~~ brush back of house - roamed all over this little canyon during day. Individuals get far apart but keep in touch with "trip" note. 2209 ♀ skel in & 2210 ♀ taken.

April 3 Flock at camp again today. Move around a lot (from ridge to bottom canyon & back 50-100 yds).

Apr. 4 ♂ 2256 taken in brush on ridge near camp in an. call - "trip". Rest of flock spread out over wide

area Cape Los Esmeriles

Apr. 6 ^{W. Cape} Flocks abundant in brush at side trail on way down mt. to San Ignacio. Usually 2 Melospiza biannatum with them. Flocks usually of 25 or more. Rather wary - ^{call} perches for only instant, then off again. Seen at middle altitudes on the mt.

Marshall, 1941-2

Spinus psaltria

mt. Cacaguatigue, Dept. Morazan, El Salvador

Dec 30, 1941 A dry knoll with grass & bushes on east slope & pines on top - on eastern slope of the mt. - had about 6 - they were calling & foraging in the bushes under & near pines - & spent a lot of time flying about & calling in the pines themselves. Collected a pair.

marshall, 1942

Spinus notatus

Los Eses miles

March 12 ♂ 2065 taken as sang goldfinch-like (sweet notes) not like ^{pine}siskin in top oak on ^{brushy} ridge below edge cloud forest. Several there - often in same pines & oaks with Tanagra elegantissima.

2063 & 2064 taken when perched in tree at camp.

March 16 1 perched as every day in Cypress at camp. Call & gr-barked sui-tseeee.

